Volume V

Boating Economic Assessment and Demand Projections

California Boating Facilities Needs Assessment

Gray Davis, Governor
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October 15, 2002

California Boating Facilities Needs Assessment

Primary Contractor to the California Department of Boating and Waterways

CALIFORNIA STATE UNIVERSITY SACRAMENTO FOUNDATION

Sacramento, California

Subcontractor to the California State University, Sacramento Foundation

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Guide to Five Volume Report
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Chapter 1

Economic Impacts of Boating in California

1. Economic Impacts of Boating in California

A. Introduction

This chapter provides an inventory of the business establishments that make up the California boating industry, and estimates of the contributions of boating to the California economy. Contributions of boating include the output of boating industry businesses, as well as the boating-related expenditures of California boaters in non-boating industries, such as restaurants, lodging places, and different types of retail establishments. In addition to direct economic impacts, this chapter estimates indirect and induced impacts (i.e., multiplier effects) of boating on the California economy.

B. Inventory of the Boating Industry

The California boating industry is defined as all businesses, organizations, and agencies in the State engaged directly in boat operation or providing boating-related goods or services in economically significant quantities. “Boating” includes, for this project, all recreational uses of small craft, and commercial uses of small craft such as commercial fishing. “Boating” excludes passenger ferry, supply vessel, fireboat, crew boat, and tug and barge operators that primarily operate heavy, deep-draft vessels or support the ocean freighter shipping industry.

We prepared a comprehensive inventory of the California boating industry, by updating a boating industry database prepared for the Department of Boating and Waterways in 1996. This 2002 inventory, in order to maintain comparability with the 1996 inventory, contains a separate record for each outlet location. The updating procedure involved reviewing all records in the 1996 database and adding new entries to the database, merging the lists and removing duplications, identifying businesses from the 1996 database no longer in existence, updating records for businesses found to have relocated or changed telephone numbers, and adding information for new businesses. In addition, review of 1996 business records indicated that some businesses that existed in both 1996 and 2001 should have been assigned to different SIC codes than they were assigned in 1996. A complete listing of all resulting records has been submitted to the DBW in computer data base form on a Compact Disc. Each record in the inventory identifies a home or branch outlet of a boating industry member with its name, address, telephone, four-digit Standard Industrial Classification, the specific class of boating-related goods or services it provides, and contact information.

Table 1.1 summarizes the number of records, by industrial classifications, for 1996 and for 2001.[1] The 1996 SIC category counts reflect any re-assignment of 1996 businesses to new SIC categories that occurred in the process of updating the 2001 database. Records of marinas in the database are an exception to the general database updating procedures described above. Because the DBW had already completed a separate inventory of marina facilities located within the State, the procedure to update the marina records from the 1996 database involved deleting all of the 1996 marina records and replacing them with current records of marinas from the DBW California Boating Facilities Needs Assessment survey of boating facilities. In addition, Table 1.1 includes information regarding the number of commercial fishing establishments, fish processors, and fish wholesalers within the State of California for 1996 and for 2001. Rather than preparing an establishment-by-establishment listing of these commercial fish businesses, this project relied upon annual licensing data provided by the California Department of Fish and Game (DFG) regarding the number of licensed operators in each of these categories. Thus, Table 1.1 indicates the number of licenses reported by DFG for the relevant years in those business categories. In light of this change in approach to the inventory since the 1996 study, and to maintain comparability between 1996 and 2001 data on Table 1.1, we have inserted the DFG license information in the relevant business categories for 1996, as well as for 2001.

[1] The inventory update was completed in late 2001 and early 2002; however, for the purposes of this project, the inventory is considered to provide a reasonable snapshot of the California boating industry as of 2001.

C. Results of the Boating Industry Inventory

Following the inventory updating process, described above, the 2001 boating business inventory identified a total of 8,486 boating businesses within the State. This compared to the 1996 inventory (as adjusted to reflect historical DFG records regarding commercial fishing, fish processing, and fish wholesaling operators, and reclassification of 1996 establishments as part of this project), which indicated a total of 10,733 boating industry establishments.

In 2001, the category of businesses with the highest number of establishments was commercial fishing, with 3,535, or 42 percent of the total. However, it should be noted that this figure may overstate the number of commercial fishing businesses, in that the DFG counts of “operators” may reflect individual boats in multi-boat fleets that are operated by a single business. Among the remaining business categories, the category with the next largest count of establishments was Boat Building and Repairing, with 696 establishments, or approximately eight percent of the inventory total. This was followed very closely by Boat Dealers and Equipment, which had 683 establishments, also about eight percent of the total. Marinas (wet storage) was the next largest category, with 536 establishments (6 percent) and the only other category that contained at least five percent of the inventory was Boat Rental, Charter Boats, Sport Fishing, and Instruction, which had 431 records and approximately five percent of the inventory. All of the other categories had less than 400 establishments, and many had ten or fewer establishments. Over 70 percent of the boating industry businesses are included in the top five industry categories.

Table 1.1
Boating Industry Inventory, 1996 and 2001

SIC	Industry or Portion	Number of Establishments 1996, Adjusted	Number of Establishments 2001	% Change 1996 to 2001
912-919	Commercial Fishing [a]	4,683	3,535	-24.5%
3732	Boat Building and Repairing	1,033	696	-32.6%
5551	Boat Dealers and Equipment	821	683	-16.8%
4493	Marinas (wet storage)	489	536	9.6%
7999	Boat Rental, Charter Boats, Sport Fishing, Instruction	348	431	23.9%
5146	Fish Wholesalers [c]	321	353	10.0%
7997	Boating, Yacht Clubs	327	344	5.2%
5941	Boating and Fishing Equipment Dealers	620	270	-56.5%
7641	Upholsterers	215	220	2.3%
2394	Canvas and Related Products	256	214	-16.4%
5571	Personal Watercraft Dealers	128	145	13.3%
7389	Yacht Brokers and Other Boat Related Services	150	137	-8.7%
4226	Dry Storage	356	126	-64.6%
2392	Boat Cushions and Covers	131	119	-9.2%
4499	Boat Cleaning, Marine Surveyors	256	115	-55.1%
5012-5091	Boating Wholesale	106	96	-9.4%
1629	Boat Dock and Marina Construction	91	55	-39.6%
2091, 2092	Fish Processors [b]	73	51	-30.1%
6411	Boat Insurance Brokers	34	45	32.4%
3999	Dock Manufacturers, Boat Rigging, Watermakers	22	31	40.9%
1711, 1731	Boat Building Trades	45	26	-42.2%
4213	Boat Trucking	35	24	-31.4%
5541	Marine Service Stations	19	24	26.3%
7699	Repair Shops, NEC	24	24	0.0%
8711	Designing Boats and Yachts	19	18	-5.3%
5211	Building Materials Dealers	2	17	750.0%
5531	Marine Battery Dealers	16	16	0.0%
2721	Boating Publications	12	13	8.3%
3799	Boat Trailers	10	12	20.0%
3429	Metal Boat Parts (Hardware, NEC)	10	11	10.0%
4489	Excursions	1	10	900.0%
6141	Boat Financing Institutions	9	8	-11.1%
unclassified	Miscellaneous	1	8	700.0%
3069	Marine Rubber Products	7	7	0.0%
3089	Miscellaneous Plastic Products	8	7	-12.5%
2298	Rope Manufacturers	1	5	400.0%
3812	Navigation, Nautical Equipment Manufacturers	5	5	0.0%
3949	Sporting Goods Manufacturers	4	5	25.0%
5999	Retail, NEC	6	5	-16.7%
3561	Pumps and Pumping Equipment	3	4	33.3%
2399	Fishing Nets, Flags	2	3	50.0%
2842, 2891	Boating Adhesive, Cleaning Product Manufacturers	3	3	0.0%
3536	Boat Lifts/Hoists	3	3	0.0%
5169	Coatings and Sealants	3	3	0.0%
3519	Internal Combustion Engines, NEC	2	2	0.0%
3663	Marine Communications Equipment	2	2	0.0%
7539	Engine Repair	2	2	0.0%
2431	Woodworking	-	1	—
2741	Map Publishing	1	1	0.0%
3569	Hydraulic Equipment	1	1	0.0%
3585	Heating and Air Conditioning	1	1	0.0%
3646	Lighting Fixtures	1	1	0.0%
3674	Solar Equipment	1	1	0.0%
4725	Dive Tours	1	1	0.0%
4950	Waste Management	1	1	0.0%
5131	Fasteners, Fiberglas Materials	2	1	-50.0%
5162	Plastics Materials	1	1	0.0%
5699	Watersport Apparel	1	1	0.0%
5719	Boat Bedding	1	1	0.0%
5722	Compressed Natural Gas Equipment	1	1	0.0%
5731	Electronic Equipment	1	1	0.0%
7221	Boat Photography	1	1	0.0%
7538	General Automotive Repair Shops	1	1	0.0%
8742	Marketing Consultants	—	1	—
5713	Boat Floor Covering	2	—	-100.0%
6331	Boat Insurance Companies	1	—	-100.0%
	Total	**10,733**	**8,486**	**-20.9%**

Notes:

a 1997, 2001 Licenses for Commercial Fishing Operators, DFG.

b 1997, 2001 Licenses for Fish Processors, DFG.

c 1997, 2001 Licenses for Fish Wholesalers, DFG.

Sources: 1996 Boating Industry Survey, DBW; Boating Industry Survey, DBW; and California Department of Fish and Game.

The largest numeric increase between 1996 and 2001 was in the group of businesses classified under SIC 7999 (Boat Rentals, Charter Boats, Sport Fishing, Instruction; a part of the larger "Amusement Services, Not Elsewhere Classified" grouping of businesses), which gained 83 businesses, for an increase of just under 24 percent from 1996 levels. After this category, Marinas posted the next largest gain in number of establishments, adding 47 since 1996; however, as very few new marinas have been constructed since 1996, this increase can be attributed to marinas that existed in 1996, but were not recognized until the 2001 survey. Fish wholesalers (+32 establishments), Boating/Yacht Clubs and Personal Watercraft Dealers (each +17 establishments), and Building Materials dealers (+15 establishments) represented most of gains in the industry. No other sector gained more than ten establishments. Of these growing categories, the most significant in terms of boating industry trends was probably the continuing growth in the number of personal watercraft dealers. This also was a growing category between 1987 and 1996. This finding reinforces conclusions from other parts of this project indicating that personal watercraft comprise a large, and growing, segment of California's boating activity. The increase in the number of businesses in SIC 7999, which includes primarily excursion boats, charters, and sport fishing operators, may signal a trend towards greater interest among the non-boat owning public in boating-related recreation and leisure activities.

Commercial fishing had the largest numeric drop, with commercial fishing operator licenses dropping by 1,148, between 1996 and 2001. After commercial fishing, the business category experiencing the largest numeric drop in establishments between the 1996 and 2001 databases, was Boating and Fishing Equipment Dealers, who are part of the 5941 SIC code (Sporting Goods Retailers). The 2001 database includes 270 establishments, down 350 from 1996. This reduction may reflect an industry-wide retail trend that saw large format "big-box" general merchandisers such as Target stores and Wal-Mart stores and "category killers" like SportMart stores, competing with, and in some cases, displacing small specialty retailers so that sales are concentrated in a smaller number of large retailers. In fact, this would be a continuation of the trend towards consolidation in this sector noted in the 1996 study. The boating industry itself also has seen the emergence of "category killer" stores in the form of the West Marine store chain. Based in Watsonville, California, publicly-traded West Marine has 30 stores in California, and 2001 sales of $513 million nationwide.[2] The company has more than doubled its total sales since 1995.[3] A large company like West Marine can use its economies of scale, brand name recognition, and financial resources to compete aggressively in its markets for recreational boating equipment and apparel and it also reports that its catalog and Internet operations are highly successful.[4]

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[2] Westmarine.com and West Marine 2001 Annual Report.

[3] Quicken.com, July 16, 2002. http://www.quicken.com/investments/seceval/?symbol=WMAR&cmetric=rev&rgt=10yr.

[4] West Marine 2001 Annual Report.

The sector experiencing the next largest decline was Boat Building and Repairing, with 696 businesses in 2001, down from 1,033 in 1996. After this was Dry Storage, for which Table 1.1 indicates a decline of 230 establishments; however, the decline suggested by the data for dry storage is most likely a reflection of a more discriminating approach taken in the current survey with regard to including or excluding dry storage businesses from the database. The 2001 database includes dry storage businesses that were associated with marinas, that included references to boat storage in their names, or that were found to be marketing directly to boaters. The 2001 database verified, updated, and added dry storage businesses of this type, and ignored other general dry storage businesses (i.e., general purpose, mini-storage establishments) based on preliminary survey findings that dry storage businesses without an obvious boating focus tended to either (a) not know which proportion of their customers used their storage spaces to store boats, or (b) reported such a small portion of their business (less than five percent) involved boat storage that the entity would really not be considered an active part of the boating industry. Boat Cleaning and Marin Surveyors (SIC 4499), and Boat Dealers and Equipment (SIC 5551), also saw significant declines in numbers between 1996 and 2001, losing 141 and 138 outlets, respectively.

D. Output of the Boating Industry

Table1.2 shows estimates of total output of boating industry businesses in 2000, the portion of output that is boating related, and the estimated boating related "value-added."[5] The estimated boating related value added provides a measure of the contribution of boating to the Gross State Product.

1. Direct Output of Boating Businesses

Using a variety of data sources, the left-hand portion of Table 1.2 estimates the total output (i.e., gross receipts) of boating industry businesses. The starting point is the number of businesses in each business category, as reported in Table 1.1. For many business categories, estimated average 1997 sales per establishment was calculated based on data published by the U.S. Census from the 1997 Economic Census for California.[6] Gross receipts by industry category were then calculated by multiplying the number of establishments in the 2001 boating business inventory by the average sales per establishment. Because the average sales per establishment for each category was expressed in terms of 1997 dollars, we utilized the Consumer Price Index inflation factor for All Urban Consumers, Western U.S. Region, (published by the U.S. Bureau of Labor Statistics), for the 1997 to 2000 time period, to estimate output in 2000

[5] For consistency, this section, and the sections that follow in this chapter, focus on year 2000 economic activity in the California boating industry. Year 2000 was chosen as the point of reference due to considerations of data availability.

[6] http://www.census.gov/epcd/www/97EC_CA.HTM; June, 2002.

dollars.[7] As indicated in the footnotes on Table 1.2 itself, we estimated gross receipts for several sectors using different data sources. Commercial fishing gross receipts are expressed in terms of the vessel value of commercial fish landings reported by DFG. Gross receipts for Dry Storage, Marinas, and Boating/Yacht Clubs were estimated from data collected as part of DBW's Survey of Boats and Boaters, as reflected in Table 1.4. Finally, for the category of Boat Insurance Companies and Brokers, we estimated total output in a separate analysis, prepared as background for this study.[8]

2. *Direct Contribution of Boating Industry to Gross State Product*

To estimate the actual contribution of boating to the statewide economy, it was first necessary to note that many businesses that are considered part of the boating industry do not cater exclusively to the boating industry, but derive some part of their gross receipts from other activities. For example, personal watercraft dealers often deal in other types of recreational vehicles, such as motorcycles, snowmobiles, and all terrain vehicles. Thus, only a portion of their sales involving personal watercraft are considered boating related (in the case of personal watercraft dealers, 42 percent). For most sectors, the percent of boating related sales was estimated on a business-by-business basis, in conjunction with telephone interviews conducted to update the business database. Where it was necessary to verify a business's information via telephone interview, we collected information regarding the percent of establishment's business that was boating-related and added this information to the database. Subsequent to completing the database update process, we determined that it would be beneficial to conduct additional telephone interviews with selected businesses in order to gain information regarding percent of business boating related for additional businesses, in order to provide a greater sample for estimating the percent of individual business categories that is boating related. The figure representing the percent of gross receipts that is boating related for each business category is the simple average of the reported percents boating related for each business within the database for which information was available. For certain business categories (primarily categories with smaller numbers of businesses) it was either not possible to collect adequate information, or the information was not available upon contacting business representatives. Where this occurred, we assumed that the percentage boating related was represented by a figure of 77 percent, which was the simple average of percent boating related for all other business categories for which the information was available.[9]

7 http://data.bls.gov/servlet/SurveyOutputServlet?data_tool=dropmap&series_id=CUUR0400SA0,CUUS0400SA0; June, 2002.

8 Bay Area Economics, memo, California Recreational and Commercial Boat Insurance, March 20, 2002.

9 Actual percentage of boating-related business may vary from this figure; however, the estimate of total output is not very sensitive to this assumption, as boating industry output estimated in this manner represents only 4.3 percent of total boating industry output.

3. *Boating-Related Value Added*

Estimating an industry's contribution to statewide economic output can be difficult because it is necessary to net out of the industry's gross output the value of its purchases of intermediate goods and services in order to avoid "double-counting" economic activity. For example, if we considered the gross output of sporting good retailers (which includes revenues they collect but use to pay distributors or manufacturers for the goods they supply to the retailer on a wholesale basis) and then considered the gross output of manufacturers to also count towards statewide economic activity, we would be double counting the manufacturer's contribution to statewide economic activity. Value added is a concept that is used to avoid this problem when evaluating the economic impacts of multiple sectors simultaneously. By definition, industry value added includes the following components of a given industry's output: employee compensation, proprietor income, indirect business taxes, and other property income.[10] Value added thus identifies an industry's contribution to regional economic activity net of its consumption of goods and services from other economic sectors. Gross state product (GSP) is defined as the sum of the values added from the economic sectors within the State. Thus, estimating the value added of boating-related economic activity enables an estimate of boating's contribution to GSP.

Estimating value added for any given industry, not to mention multiple industries, can be an extremely complex and time-consuming process. In recent years, the development of computerized input-output models based on extensive government databases of the economic relationships between industry sectors and institutions (e.g., households, corporations, and government) have facilitated these types of analysis. Our analysis relied on the IMPLAN input-output model produced by the Minnesota IMPLAN Group (MIG), using a dataset produced specifically to reflect the characteristics and structure of the California economy. Based on input-output tables describing all of the inputs that a given industry purchases from other industries, and all of the components of its outputs to other sectors, IMPLAN estimates industry value added for a given level of gross industry output. The industry value added coefficient column in Table 1.2 indicates the portion of total industry output that represents value added, or contribution to GSP.

As shown in the far right-hand column of Table 1.2, the five boating business categories making the greatest contributions to Gross State Product, in descending order are:

1.	Fish Wholesalers	$1,728,000,000
2.	Boat Dealers and Equipment	$928,000,000
3.	Boat Building and Repairing	$583,000,000
4.	Marinas	$310,000,000
5.	Boating Wholesale Businesses	$222,000,000.

[10] An example of other property income would be lease payments from a business to a building owner.

Table 1.2 *(Part 1)*
Boating Industry Output and Value Added, 2000

SIC	Industry or Portion	2001 Table 1.1 Estab.	1997Avg. Revenue Per Estab. ($1,000s)	1997 NAICS Category	Gross Receipts 1997 $	Estimated Gross Receipts 2000 $ [a]	
5146	Fish Wholesalers [b]	353	$6,370	422460	$2,248,610,000	$2,435,244,630	
5551	Boat Dealers and Equipment	683	1,635	441222	1,116,705,000	1,209,391,515	
3732	Boat Building and Repairing	696	2,660	336612	1,851,360,000	2,005,022,880	
4493	Marinas (wet storage)	536	n.a.	713930	1,283,396,180	1,389,918,063	c
5012-5091	Boating Wholesale	96	5,580	misc.	535,708,800	580,172,630	
7999	Boat Rental, Charter Boats, Sport Fishing, Instruction	431	636	4872101, 4872102, 611620	274,259,667	297,023,219	
5571	Personal Watercraft Dealers	145	3,478	441210	504,310,000	546,167,730	
5941	Sporting Goods (Boating and Fishing) Dealers	270	1,013	451110	273,510,000	296,211,330	
6331, 6411	Boat Insurance Companies, Brokers	—	n.a.	n.a.	168,051,708	182,000,000	d
912-919	Commercial Fishing	3,535	n.a.	n.a.	n.a.	132,553,027	e
3812	Navigation, Nautical Equipment Manufacturing	5	45,756	334511	228,780,000	247,768,740	
2091, 2092	Fish Processors	51	8,983	311711, 311712	458,107,500	496,130,423	f
2392	Boat Cushions and Covers	119	4,410	314129	524,790,000	568,347,570	
2394	Canvas & Related Products	214	803	314912	171,842,000	186,104,886	
1629	Boat Dock and Marina Construction	55	2,528	234990	139,040,000	150,580,320	
6141	Boat Financing Institutions	8	11,525	522220	92,200,000	99,852,600	
5541	Marine Service Stations	24	2,170	4479	52,080,000	56,402,640	
3429	Metal Boat Parts, (Hardware, NEC)	11	7,535	3325	82,885,000	89,764,455	
7389	Yacht Brokers and Other Boat Related Services	137	665	541490, 5619909	91,036,500	98,592,530	
3999	Dock Manufacturers, Boat Rigging, Watermakers, Masts	31	2,954	339990	91,574,000	99,174,642	
4226	Dry Storage	126	n.a.	713930	51,443,950	55,713,798	c
4499	Boat Cleaning, Marine Surveyors	115	854	488390	98,210,000	106,361,430	
3663	Marine Communications Equipment	2	27,333	334220	54,666,000	59,203,278	
3674	Solar Equipment	1	39,122	334413	39,122,000	42,369,126	
7997	Boating, Yacht Clubs	344	n.a.	713990	33,528,975	36,311,880	c
4213	Boat Trucking	24	1,657	4842303	39,768,000	43,068,744	
2721	Boating Publications	13	4,158	511120	54,054,000	58,540,482	
8711	Designing Boats and Yachts	18	1,685	541330	30,330,000	32,847,390	
3069	Fabricated Rubber Products	7	8,732	326299	61,124,000	66,197,292	
7641	Upholsterers	220	235	811420	51,700,000	55,991,100	
3949	Sporting Goods Manufacturing	5	5,074	339920	25,370,000	27,475,710	
3561	Pumps & Pumping Equipment	4	11,280	333911	45,120,000	48,864,960	
5531	Marine Battery Dealers	16	1,117	441310	17,872,000	19,355,376	
5211	Building Materials Dealers	17	2,926	444190	49,742,000	53,870,586	
3089	Miscellaneous Plastic Products	7	6,124	326199	42,868,000	46,426,044	
3799	Boat Trailers	12	5,619	336214	67,428,000	73,024,524	
7699	Repair Shops, NEC	24	854	488390	20,496,000	22,197,168	
1711, 1731	Boat Building Trades	26	1,226	2351 and 2353	31,876,000	34,521,708	
3536	Boat Lifts/Hoists	3	8,651	333923	25,953,000	28,107,099	
5169	Coatings and Sealants	3	5,916	4226902	17,748,000	19,221,084	
4489	Excursions	10	1,145	4872101	11,450,000	12,400,350	
2842, 2891	Boating Adhesive, Cleaning Product Manufacturing	3	6,694	325612, 325520	20,080,500	21,747,182	
3519	Internal Combust. Eng., NEC	2	16,830	333618	33,660,000	36,453,780	
5162	Plastics Materials	1	6,184	422610	6,184,000	6,697,272	
4950	Waste Management	1	5,689	562111	5,689,000	6,161,187	
5999	Retail, NEC	5	564	453998	2,820,000	3,054,060	
2431	Woodworking	1	4,100	321918	4,100,000	4,440,300	
2399	Fishing Nets, Flags	3	1,528	314999	4,584,000	4,964,472	
3585	Heating and Air Conditioning	1	7,208	333415	7,208,000	7,806,264	
5731	Electronic Equipment	1	2,118	443112	2,118,000	2,293,794	
5131	Fasteners	1	2,368	4223102	2,368,000	2,564,544	
3569	Hydraulic Equipment	1	3,728	333999	3,728,000	4,037,424	
2741	Map Publishing	1	2,085	511199	2,085,000	2,258,055	
2298	Rope Manufacturers	5	1,280	314991	6,400,000	6,931,200	
5699	Watersport Apparel	1	1,358	315999	1,358,000	1,470,714	
4725	Dive Tours	1	932	561520	932,000	1,009,356	
5719	Boat Bedding	1	1,009	442299	1,009,000	1,092,747	
5722	Compressed Natural Gas Equipment	1	1,166	443111	1,166,000	1,262,778	
7539	Engine Repair	2	428	8111189	856,000	927,048	
8742	Marketing Consultants	1	601	541613	601,000	650,883	
7538	General Automotive Repair Shops	1	369	811111	369,000	399,627	
3646	Lighting Fixtures	1	7,547	335122	7,547,000	8,173,401	
7221	Boat Photography	1	284	541921	284,000	307,572	
Unclassified	Miscellaneous	8	n.a.	Miscellaneous	n.a.	n.a.	
	Total		$8,441		$11,173,262,780	$12,233,196,618	

Notes:

a Uses CPI inflator for 1997 to 2000 = 1.083; BLS, All Urban Consumers, West Region.

b 1997, 2001 Licenses for Fish Wholesalers, DFG.

c 2000 gross output estimated from Tables 1.3 and 1.4.

d Gross receipts estimated by BAE; March 20, 2002.

e 1997, 2001 Licenses for Commercial Fishing Operators, DFG; 2000 gross receipts are actuals reported by DFG.

f 1997, 2001 Licenses for Fish Processors, DFG.

g Estimated percent boating for these sectors was not available. For these sectors, assumes the simple average percent boating related reported for other boating sectors.

Sources: 1996 Boating Industry Survey, DBW; 2002 Boating Industry Survey, DBW; Department of Fish and Game; U.S. Economic Census, 1997; California Input-Output Model, Minnesota IMPLAN Group, 2002.

Table 1.2 *(Part 2)*
Boating Industry Output and Value Added, 2000

SIC	Industry or Portion	Estimated Percent Boating Related		Boating Related Gross Receipts	Industry Value Added Coefficient	Estimated 2000 Industry Value Added (Contribution to GSP)
5146	Fish Wholesalers [b]	100%		$2,435,244,630	0.710	$1,728,031,616
5551	Boat Dealers and Equipment	97%		1,173,109,770	0.791	928,473,984
3732	Boat Building and Repairing	81%		1,624,068,533	0.359	583,752,384
4493	Marinas (wet storage)	100%		1,389,918,063	0.419	582,375,668
5012-5091	Boating Wholesale	54%		313,293,220	0.710	222,310,560
7999	Boat Rental, Charter Boats, Sport Fishing, Instruction	100%		297,023,219	0.700	207,999,168
5571	Personal Watercraft Dealers	42%		229,390,447	0.791	181,554,256
5941	Sporting Goods (Boating and Fishing) Dealers	71%		210,310,044	0.831	174,754,320
6331, 6411	Boat Insurance Companies, Brokers	100%		182,000,000	0.606	110,302,376
912-919	Commercial Fishing	100%		132,553,027	0.864	114,494,368
3812	Navigation, Nautical Equipment Manufacturing	100%		247,768,740	0.443	109,676,224
2091, 2092	Fish Processors	100%		496,130,423	0.252	125,133,112
2392	Boat Cushions and Covers	52%		295,540,736	0.343	101,392,488
2394	Canvas & Related Products	77%		143,300,762	0.558	79,919,136
1629	Boat Dock and Marina Construction	76%		114,441,043	0.429	49,124,656
6141	Boat Financing Institutions	77%	g	76,886,502	0.606	46,597,608
5541	Marine Service Stations	100%		56,402,640	0.791	44,640,656
3429	Metal Boat Parts, (Hardware, NEC)	90%		80,788,010	0.501	40,438,900
7389	Yacht Brokers and Other Boat Related Services	74%		72,958,472	0.520	37,910,252
3999	Dock Manufacturers, Boat Rigging, Watermakers, Masts	63%		62,480,024	0.483	30,178,706
4226	Dry Storage	100%		55,713,798	0.437	24,346,930
4499	Boat Cleaning, Marine Surveyors	51%		54,244,329	0.419	22,717,628
3663	Marine Communications Equipment	77%	g	45,586,524	0.492	22,413,132
3674	Solar Equipment	77%	g	32,624,227	0.640	20,885,744
7997	Boating, Yacht Clubs	100%		36,311,880	0.518	18,809,554
4213	Boat Trucking	95%		40,915,307	0.437	17,879,774
2721	Boating Publications	62%		36,295,099	0.460	16,710,782
8711	Designing Boats and Yachts	100%		32,847,390	0.506	16,624,715
3069	Fabricated Rubber Products	77%	g	50,971,915	0.307	15,656,758
7641	Upholsterers	47%		26,315,817	0.444	11,677,283
3949	Sporting Goods Manufacturing	100%		27,475,710	0.488	13,395,772
3561	Pumps & Pumping Equipment	77%	g	37,626,019	0.314	11,826,129
5531	Marine Battery Dealers	77%	g	14,903,640	0.791	11,795,692
5211	Building Materials Dealers	25%		13,467,647	0.867	11,680,764
3089	Miscellaneous Plastic Products	77%	g	35,748,054	0.311	11,129,658
3799	Boat Trailers	64%		46,735,695	0.231	10,785,621
7699	Repair Shops, NEC	77%	g	17,091,819	0.537	9,171,778
1711, 1731	Boat Building Trades	70%		24,165,196	0.648	15,652,547
3536	Boat Lifts/Hoists	77%	g	21,642,466	0.365	7,893,550
5169	Coatings and Sealants	40%		7,688,434	0.710	5,455,656
4489	Excursions	100%		12,400,350	0.419	5,193,291
2842, 2891	Boating Adhesive, Cleaning Product Manufacturing	77%	g	16,745,330	0.651	10,903,884
3519	Internal Combust. Eng., NEC	77%	g	28,069,411	0.174	4,884,627
5162	Plastics Materials	77%	g	5,156,899	0.710	3,659,298
4950	Waste Management	77%	g	4,744,114	0.622	2,951,175
5999	Retail, NEC	77%	g	2,351,626	0.831	1,954,052
2431	Woodworking	100%		4,440,300	0.419	1,861,317
2399	Fishing Nets, Flags	100%		4,964,472	0.357	1,771,847
3585	Heating and Air Conditioning	77%	g	6,010,823	0.288	1,729,168
5731	Electronic Equipment	77%	g	1,766,221	0.836	1,475,956
5131	Fasteners	77%	g	1,974,699	0.710	1,401,232
3569	Hydraulic Equipment	77%	g	3,108,816	0.410	1,275,882
2741	Map Publishing	100%		2,258,055	0.540	1,218,622
2298	Rope Manufacturers	45%		3,119,040	0.375	1,170,901
5699	Watersport Apparel	77%	g	1,132,450	0.730	826,406
4725	Dive Tours	100%		1,009,356	0.419	422,720
5719	Boat Bedding	77%	g	841,415	0.836	703,135
5722	Compressed Natural Gas Equipment	50%		631,389	0.836	527,625
7539	Engine Repair	77%	g	713,827	0.578	412,664
8742	Marketing Consultants	77%	g	501,180	0.527	264,236
7538	General Automotive Repair Shops	77%	g	307,713	0.578	177,889
3646	Lighting Fixtures	5%		408,670	0.357	145,846
7221	Boat Photography	77%	g	236,830	0.537	127,176
Unclassified	Miscellaneous				n.a.	n.a.
	Total			**$10,394,872,257**		**$5,840,628,854**

Notes:

a Uses CPI inflator for 1997 to 2000 = 1.083; BLS, All Urban Consumers, West Region.

b 1997, 2001 Licenses for Fish Wholesalers, DFG.

c 2000 gross output estimated from Tables 1.3 and 1.4.

d Gross receipts estimated by BAE; March 20, 2002.

e 1997, 2001 Licenses for Commercial Fishing Operators, DFG; 2000 gross receipts are actuals reported by DFG.

f 1997, 2001 Licenses for Fish Processors, DFG.

g Estimated percent boating for these sectors was not available. For these sectors, assumes the simple average percent boating related reported for other boating sectors.

Sources: 1996 Boating Industry Survey, DBW; 2002 Boating Industry Survey, DBW; Department of Fish and Game; U.S. Economic Census, 1997; California Input-Output Model, Minnesota IMPLAN Group, 2002.

Eight other business categories contributed over $100 million annually to the GSP, meaning that while much of the boating industry's GSP impact is concentrated in a few key sectors, there are several other categories that contribute in economically significant ways to the State's economy. In all, we estimated that with boating-related gross receipts of $10.4 billion, the boating industry's contribution to GSP was approximately $5.8 billion in 2000.

Direct Boater Spending Information from California Boats and Boaters Survey. **Table 1.3** summarizes information from the California Boats and Boaters Survey. The table details responses from over 4,000 surveys administered to California boat owners regarding their annual expenditures on boating activities, including boat ownership and maintenance costs, and annual boating trip-related costs, such as travel, food, lodging, and daily use fees for marinas and other boating facilities. These spending estimates provided direct estimates of boating-related impacts in certain boating business sectors, including marinas, dry storage, and boating and yacht clubs.

The survey also indicated expenditures in boating sectors for items such as fuel purchases, repair services, and equipment; however, these types of expenditures could not be allocated to specific categories because of overlap between categories. For example, boat equipment purchases may be made at Boat Dealers and Equipment stores, in Boating and Fishing Equipment Stores, and potentially a range of other store types. Similarly, boat repair services could be obtained from a boat dealer, or a specialized automotive repair establishment that also handles marine repairs. Total annual California boater spending is estimated at approximately $8.6 billion per year, not including the purchase of boats, and associated vehicles used for towing or hauling them (see Table 1.3)

Boater Spending in Boating Industries versus Non-Boating Industries. Within the $8.6 billion estimate of annual boater spending is approximately $1.3 billion in annual boater spending on boat maintenance and upkeep that accrues to the boating industry itself, and another $4.4 billion in annual boater spending in support of other non-boat industry businesses including grocery and convenience stores, restaurants, lodging and camping facilities, gasoline stations, and drug and gift stores (see **Table 1.4** and **Table 1.5**). The remainder of the annual boater expenditures are associated with trip-related expenditures at marinas (e.g. daily use fees) and equipment.

Table 1.3
Annual Boating Expenditures of California Boat Owners, 2000

SIC		<16', Jet	<16', Other	16' - 19'11"	20' - 25'11"	26' - 39'11"	40' +	Total
Mean Annual Expenditures per Boat [a]								
	Grocery and convenience	$2,125.22	$1,419.78	$1,233.81	$1,223.47	$1,669.85	$3,292.39	
	Restaurants	522.70	292.36	300.92	253.30	706.53	927.77	
	Hotels and motels	2,968.62	183.48	490.09	695.99	123.25	244.06	
	Campgrounds	738.13	300.66	307.37	328.29	61.85	36.76	
	Gift, book, and other retail	366.18	151.77	124.83	130.75	216.72	375.91	
	Drug Stores	369.02	114.09	49.44	57.24	68.24	94.13	
	Boating equipment stores	1,469.39	525.31	460.20	561.28	962.58	987.00	
	Gas Stations, boat fuel	2,840.72	491.55	1,312.19	2,182.19	1,280.44	1,629.52	
	Gas Stations, auto fuel	2,194.57	873.35	954.06	1,069.15	333.91	570.60	
	Marinas, transient berthing	67.97	279.42	138.97	264.38	827.18	642.85	
	Marinas, parking	151.28	42.76	58.80	109.11	21.92	16.64	
	Marinas, launching	168.68	153.99	139.74	77.54	42.46	7.51	
	Marinas, boat fuel	474.20	281.28	511.65	701.97	1,505.49	1,777.74	
	Marinas, boat/motor rental	27.72	4.89	2.62	39.38	19.88	0.00	
	Marinas, gear rental	40.98	0.35	34.01	16.13	28.25	15.59	
	Marinas, incidentals	356.28	135.68	182.36	166.42	160.44	507.84	
Sum of Mean Trip Expenditures by Category [b]		$14,881.66	$5,250.72	$6,301.06	$7,876.59	$8,028.99	$11,126.31	
Sum of Mean Boat Upkeep Expenditures by Category [c]		$842.49	$547.30	$888.12	$2,366.15	$6,023.00	$12,029.29	
	Sum of Mean Totals	$15,724.15	$5,798.02	$7,189.18	$10,242.74	$14,051.99	$23,155.60	
Number of Boats of Known Length (189 boats of unknown length) [d]								
	Total	164,933	292,296	271,018	132,711	49,557	14,828	
Total Annual Expenditures								
	Grocery and convenience	$350,518,910	$414,996,015	$334,384,719	$162,367,927	$82,752,756	$48,819,559	$1,393,839,886
	Restaurants	86,210,479	85,455,659	81,554,737	33,615,696	35,013,507	13,756,974	335,607,051
	Hotels and motels	489,623,402	53,630,470	132,823,212	92,365,529	6,107,900	3,618,922	778,169,435
	Campgrounds	121,741,995	87,881,715	83,302,803	43,567,694	3,065,100	545,077	340,104,385
	Gift, book, and other retail	60,395,166	44,361,764	33,831,177	17,351,963	10,739,993	5,573,993	172,254,057
	Drug Stores	60,863,576	33,348,051	13,399,130	7,596,378	3,381,770	1,395,760	119,984,663
	Boating equipment stores	242,350,901	153,546,012	124,722,484	74,488,030	47,702,577	14,635,236	657,445,239
	Gas Stations, boat fuel	468,528,472	143,678,099	355,627,109	289,600,617	63,454,765	24,162,523	1,345,051,585
	Gas Stations, auto fuel	361,957,014	255,276,712	258,567,433	141,887,966	16,547,578	8,460,857	1,042,697,559
4493	Marinas, transient berthing	11,210,496	81,673,348	37,663,371	35,086,134	40,992,559	9,532,180	216,158,089
4493	Marinas, parking	24,951,064	12,498,577	15,935,858	14,480,097	1,086,289	246,738	69,198,624
4493	Marinas, launching	27,820,898	45,010,661	37,872,055	10,290,411	2,104,190	111,358	123,209,574
4493	Marinas, boat fuel	78,211,229	82,217,019	138,666,360	93,159,141	74,607,568	26,360,329	493,221,645
4493	Marinas, boat/motor rental	4,571,943	1,429,327	710,067	5,226,159	985,193	0	12,922,690
4493	Marinas, gear rental	6,758,954	102,304	9,217,322	2,140,628	1,399,985	231,169	19,850,362
4493	Marinas, incidentals	58,762,329	39,658,721	49,422,842	22,085,765	7,950,925	7,530,252	185,410,834
Total Trip Expenditures		**$2,454,476,829**	**$1,534,764,453**	**$1,707,700,679**	**$1,045,310,135**	**$397,892,657**	**$164,980,925**	**$7,305,125,679**
Total Boat Upkeep		**$138,954,403**	**$159,973,601**	**$240,696,506**	**$314,014,133**	**$298,481,811**	**$178,370,312**	**$1,330,490,766**
Total Estimated Boater Expenditures		**$2,593,431,232**	**$1,694,738,054**	**$1,948,397,185**	**$1,359,324,268**	**$696,374,468**	**$343,351,237**	**$8,635,616,444**

Notes:
a Tabulation by Planning and Applied Economics, from Survey of Boats and Boaters.
b Total represents sum of means from expenditure categories.
c From total upkeep cost, by boat class, Table 1.4.
d See Volume III, California Boats and Boaters, Table A1.2, 2002.

Sources: PRI Survey of California Boats and Boaters; NewPoint Group, 2002; BAE.

Table 1.4
Annual Boater Spending on Boat Ownership, 2000

SIC		<16', Jet	<16', Other	16' - 19'11"	20' - 25'11"	26' - 39'11"	40' +	Total
Mean Annual Expenditures per Boat [a]								
	Equipment Purchases	$365.34	$148.64	$309.85	$880.96	$1,357.05	$3,212.60	
	Repairs and Maintenance	234.63	119.27	240.00	610.57	1,471.35	2,799.26	
	Insurance, fees and taxes	117.73	71.08	170.72	299.63	539.95	1,782.02	
	Marina Slip	28.66	103.00	35.30	352.47	2,340.15	3,584.29	
	Dry Storage	39.85	21.08	68.64	135.20	74.35	185.45	
	Other Marina Fees	0.00	4.82	10.64	7.60	48.77	130.33	
	Club and Association Fees	4.27	56.07	33.88	27.73	107.67	68.83	
	Other Costs	52.01	23.34	19.09	51.99	83.71	266.51	
Sum of Mean Expenditures by Category [b]		$842.49	$547.30	$888.12	$2,366.15	$6,023.00	**$12,029.29**	
Number of Boats Registered and Documented, 2000 [b]								
	Total	164,933	292,296	271,018	132,711	49,557	14,828	
Total Expenditures								
	Equipment Purchases	$60,256,622	$43,446,877	$83,974,927	$116,913,083	$67,251,327	$47,636,433	$419,479,269
	Repairs & Maintenance	38,698,230	34,862,144	65,044,320	81,029,355	72,915,692	41,507,427	334,057,168
	Insurance, fees and taxes	19,417,562	20,776,400	46,268,193	39,764,197	26,758,302	26,423,793	179,408,446
4493	Marina Slip	4,726,980	30,106,488	9,566,935	46,776,646	115,970,814	53,147,852	260,295,715
4226	Dry Storage	6,572,580	6,161,600	18,602,676	17,942,527	3,684,563	2,749,853	55,713,798
4493	Other Marina Fees	0	1,408,867	2,883,632	1,008,604	2,416,895	1,932,533	9,650,530
7997	Club and Association Fees	704,264	16,389,037	9,182,090	3,680,076	5,335,802	1,020,611	36,311,880
	Other Costs	8,578,165	6,822,189	5,173,734	6,899,645	4,148,416	3,951,810	35,573,959
Total Annual Ownership Costs for Boats of Known Length		$138,954,403	$159,973,601	$240,696,506	$314,014,133	$298,481,811	$178,370,312	$1,330,490,766

Notes:
a Table A2.6, Volume III, California Boats and Boaters Survey, 2002.
b Total represents some of mean expenditures by expenditure category above.
c Table A1.2, Volume III, California Boats and Boaters Survey, 2002.

Source: PRI Survey of California Boats and Boaters; NewPoint Group, 2002.

Table 1.5
Annual Boater Expenditures in Non-Boating Industries, 2000

SIC	Industry or Portion	Gross Expenditures	Source	IMPLAN Sector	Industry Value-Added Coefficient	Direct Contribution to GSP
5411	Grocery and convenience stores	$1,393,839,886	Table 1.3	450	0.924	$1,287,217,311
5812	Restaurants	$335,607,051	Table 1.3	454	0.583	$195,787,825
7011	Lodging & Camping	$1,118,273,820	Table 1.3	463	0.673	$752,737,835
5541	Gasoline stations (Auto and Boat Fuel)	$2,387,749,144	Table 1.3 [a]	451	0.791	$1,889,817,262
Misc.	Drugstores, Gift Stores	$292,238,720	Table 1.3	455	0.831	$242,831,845
	Total	$5,527,708,621				$4,368,392,078

Note:
a Excludes boat fuel purchased at marinas.
b IMPLAN 2002 Regional Input-Output Model, 1999 California Data Set, Adjusted to 2000; Type SAM (Social Accounting Matrix, Induced Effects Due to Increased Household Income).

Source: PRI Survey of California Boats and Boaters, NewPoint Group, 2002.

4. Total Impact of Boating on the Gross State Product

The data in Table 1.2 provide an estimate of the direct boating-related economic activity in California. In addition to this direct activity, boating generates additional economic activity in the form of indirect and induced economic impacts. Indirect economic impacts are the result of the consumption of goods and services in other sectors as a result of the direct economic activity. For example, boat sales are considered a direct economic activity. An indirect economic impact spawned by boat sales is expenditures in the advertising sector made by the boat dealer in the process of selling boats. Induced economic impacts are the result of the increased personal income generated by the direct and indirect economic activity. For example, the boat dealer pays wages to salespeople and part of the payments to the advertising industry are spent in the form of employee wages. When workers receive these wages, a portion of those wages will in turn stimulate demand for additional consumer goods and services. This increased demand represents induced economic activity.

Our analysis relied upon the same IMPLAN model to estimate indirect and induced economic impacts as for industry value added.[11] **Table 1.6** summarizes the estimated direct, indirect, and induced economic impacts of boating related economic activity in California. As shown in this table, as of 2000, boating in California contributed an estimated $16.5 billion to GSP, or an estimated 1.2 percent of the statewide total.[12]

This is the same as boating's estimated 1.2 percent of GSP in the 1995 estimates contained in the 1996 boating impacts study. **Table 1.7** provides four-digit SIC code level detail regarding boating industry GSP and **Table 1.8** provides a summary of general industry GSP impact of boater expenditures in non-boating industries.

5. Impact of Boating on Employment

As with GSP, the impact of boating on total employment in California is measured by its direct, indirect and induced contributions to total output (gross state product), as documented above. The most consistent way to estimate the boating-related employment in California is to utilize the industry, employment, and income relationships built into the IMPLAN model's databases to estimate direct, indirect, and induced employment associated with the estimated levels of boating-related industry output estimated in Table 1.2.

[11] To estimate indirect and induced economic impacts, we have used the IMPLAN model's Type SAM multipliers. These multipliers calculate induced economic impacts based on the increased household income generated by direct and indirect economic impacts.

[12] California GSP, 2000, $1,344,623,000,000: U.S. Bureau of Economic Analysis, www.bea.gov, 7/11/02.

Table 1.6
Statewide Boating Impact Summary, 1995 and 2000

Contribution to Gross State Product	1995	2000
Boating Industry Economic Activity		
Direct Impact	$3,239,482,617	$5,840,628,854
Total: Direct, Plus Indirect, Plus Induced	6,794,727,435	10,143,597,014
Boater Spending In Other Industries		
Direct Impact	$1,687,802,344	$4,368,392,078
Total: Direct, Plus Indirect, Plus Induced	4,212,543,831	6,404,557,904
Total Boating Impact		
Direct Impact	$4,927,284,961	$10,209,020,932
Total: Direct, Plus Indirect, Plus Induced	$11,007,271,266	**$16,548,154,918**
Contribution to Statewide Employment	**1995**	**2000**
Boating Industry Economic Activity		
Direct Impact	78,770	97,239
Total: Direct, Plus Indirect, Plus Induced	116,719	166,214
Boater Spending In Other Industries		
Direct Impact	16,405	84,281
Direct, Plus Indirect, Plus Induced	66,724	117,847
Total Boating Impact		
Direct Impact	95,175	181,520
Total: Direct, Plus Indirect, Plus Induced	183,443	**284,060**

Note: GSP figures are nominal dollars.
Sources: Tables 1.7 through 1.9.

Table 1.7
Boating Industry Impacts on GSP, 2000

SIC	Industry or Portion	Estimated Direct 2000 Industry Value Added (Contribution to GSP) [a]	IMPLAN Sector	IMPLAN Value Added Multiplier [b]	Total Direct, Indirect, and Induced Contribution to GSP
5146	Fish Wholesalers [e]	$1,728,031,616	447	1.575	$2,722,356,837
5551	Boat Dealers and Equipment	928,473,984	451	1.456	1,351,655,920
3732	Boat Building and Repairing	583,752,384	393	2.034	1,187,404,185
4493	Marinas (wet storage)	582,375,668	436	2.262	1,317,509,960
5012-5091	Boating Wholesale	222,310,560	447	1.575	350,230,093
7999	Boat Rental, Charter Boats, Sport Fishing, Instruction	207,999,168	488	1.596	332,002,222
5571	Personal Watercraft Dealers	181,554,256	451	1.456	264,303,438
5941	Sporting Goods (Boating and Fishing) Dealers	174,754,320	455	1.417	247,619,970
6331, 6411	Boat Insurance Companies, Brokers	110,302,376	459	2.052	226,339,288
912-919	Commercial Fishing	114,494,368	25	1.351	154,731,737
3812	Navigation, Nautical Equipment Manufacturing	109,676,224	400	2.286	250,704,657
2091, 2092	Fish Processors	125,133,112	97	2.054	257,003,921
2392	Boat Cushions and Covers	101,392,488	126	2.025	205,321,503
2394	Canvas & Related Products	79,919,136	128	1.713	136,886,317
1629	Boat Dock and Marina Construction	49,124,656	49	2.114	103,832,683
6141	Boat Financing Institutions	46,597,608	457	2.052	95,617,789
5541	Marine Service Stations	44,640,656	451	1.456	64,987,068
3429	Metal Boat Parts, (Hardware, NEC)	40,438,900	278	1.618	65,436,431
7389	Yacht Brokers and Other Boat Related Services	37,910,252	470	1.970	74,681,376
3999	Dock Manufacturers, Boat Rigging, Watermakers, Masts	30,178,706	432	1.873	56,521,991
4226	Dry Storage	24,346,930	435	2.320	56,491,269
4499	Boat Cleaning, Marine Surveyors	22,717,628	436	2.263	51,418,457
3663	Marine Communications Equipment	22,413,132	373	1.811	40,600,669
3674	Solar Equipment	20,885,744	377	1.610	33,621,752
7997	Boating, Yacht Clubs	18,809,554	489	2.111	39,712,855
4213	Boat Trucking	17,879,774	435	2.323	41,527,534
2721	Boating Publications	16,710,782	175	1.987	33,212,508
8711	Designing Boats and Yachts	16,624,715	506	2.277	37,855,714
3069	Fabricated Rubber Products	15,656,758	219	2.453	38,404,013
7641	Upholsterers	11,677,283	481	1.772	20,691,286
3949	Sporting Goods Manufacturing	13,395,772	421	1.904	25,501,419
3561	Pumps & Pumping Equipment	11,826,129	332	2.115	25,016,583
5531	Marine Battery Dealers	11,795,692	451	1.456	17,171,959
5211	Building Materials Dealers	11,680,764	448	1.387	16,199,854
3089	Miscellaneous Plastic Products	11,129,658	220	2.413	26,851,798
3799	Boat Trailers	10,785,621	399	2.182	23,530,704
7699	Repair Shops, NEC	9,171,778	482	1.794	16,458,265
1711, 1731	Boat Building Trades	15,652,547	56	1.725	27,007,401
3536	Boat Lifts/Hoists	7,893,550	316	1.822	14,382,268
5169	Coatings and Sealants	5,455,656	447	1.575	8,594,890
4489	Excursions	5,193,291	436	2.263	11,754,351
2842, 2891	Boating Adhesive, Cleaning Product Manufacturing	10,903,884	197	1.486	16,207,384
3519	Internal Combust. Eng., NEC	4,884,627	308	2.810	13,727,687
5162	Plastics Materials	3,659,298	447	1.575	5,764,891
4950	Waste Management	2,951,175	446	1.628	4,804,531
5999	Retail, NEC	1,954,052	455	1.417	2,768,815
2431	Woodworking	1,861,317	137	2.274	4,232,603
2399	Fishing Nets, Flags	1,771,847	132	2.052	3,635,741
3585	Heating and Air Conditioning	1,729,168	347	2.314	4,001,554
5731	Electronic Equipment	1,475,956	453	1.415	2,087,908
5131	Fasteners	1,401,232	447	1.575	2,207,513
3569	Hydraulic Equipment	1,275,882	338	1.941	2,476,070
2741	Map Publishing	1,218,622	178	1.692	2,061,937
2298	Rope Manufacturers	1,170,901	122	2.105	2,465,212
5699	Watersport Apparel	826,406	452	1.522	1,257,984
4725	Dive Tours	422,720	439	2.263	956,773
5719	Boat Bedding	703,135	453	1.415	994,665
5722	Compressed Natural Gas Equipment	527,625	453	1.415	746,386
7539	Engine Repair	412,664	479	1.532	632,391
8742	Marketing Consultants	264,236	508	2.125	561,478
7538	General Automotive Repair Shops	177,889	479	1.532	272,608
3646	Lighting Fixtures	145,846	369	2.185	318,711
7221	Boat Photography	127,176	465	2.054	261,236
	Total	**$5,840,628,854**			**$10,143,597,014**

Notes:
a From Table 1.2
b IMPLAN 2002 Regional Input-Output Model, 1999 California Data Set, Adjusted to 2000; Type SAM (Social Accounting Matrix, Induced Effects Due to Increased Household Income).

Sources: 2001 DBW Boater Industry Database; Table 1.2; Minnesota IMPLAN Group; BAE, 2002.

Table 1.8
Annual Boater Expenditures in Non-Boating Industries Impact on GSP, 2000

SIC	Industry or Portion	Direct Contribution to GSP	IMPLAN Value-Added Multiplier b	Total Direct, Indirect and Induced GSP Impact
5411	Grocery and convenience stores	$1,287,217,311	1.343	$1,728,811,538
5812	Restaurants	195,787,825	1.763	345,218,386
7011	Lodging and Camping	752,737,835	1.641	1,235,282,620
5541	Gasoline stations (Auto and Boat Fuel)	1,889,817,262	1.456	2,751,162,192
Misc.	Drugstores, Gift Stores	242,831,845	1.417	344,083,168
	Total	$1,747,755,000		$4,368,392,078

Notes:
a Excludes boat fuel purchased at marinas.
b IMPLAN 2002 Regional Input-Output Model, 1999 California Data Set, Adjusted to 2000; Type SAM (Social Accounting Matrix, Induced Effects Due to Increased Household Income).
Sources: California Boats and Boaters Survey; Minnesota IMPLAN Group; BAE, 2002.

As summarized in Table 1.6, total boating-related employment based on year 2000 output levels is estimated at 284,060 persons, or about 1.9 percent of the statewide total.[13] This percent of the statewide total represents a significant increase in boating's employment impact from the 1996 study, which estimated the share in 1995 at 1.3 percent. **Table 1.9** details the boating-related employment in boating industries while **Table 1.10** details employment in non-boating industries attributable to boater expenditures. Each table indicates the direct employment, as well as the total employment, including direct, indirect, and induced.

F. *Impact of Boating on State and Local Revenues*

The purpose of this subsection is to identify State and local tax benefits generated by boating related-economic activity (as summarized in Tables 1.2 and 1.8). This section focuses on key general-purpose revenue sources, as these revenues represent benefits to the State of California and its residents in general, rather than benefits to boaters specifically. First; however, we provide an estimate of the total tax impact that direct, indirect, and induced boating-related economic activity generates in California. In all, based on the boating-related economic activity estimated in Tables 1.2 and 1.8, boating generates as much as $1.6 billion in State and local government revenue annually, with boating-related discretionary revenue impacts estimated at approximately $1.4 billion annually, as summarized in **Table 1.11**.[14] **Table 1.12** provides a detailed industry-by-industry listing of all the estimated State and local government revenue impacts, including non-discretionary as well as discretionary revenues associated with boating-related economic activity in California. This figure is substantially greater than the $588.7 million impact on State and local government revenues reported in the 1996 study. This can be attributed primarily to the fact that the current estimates account for revenues generated by indirect and induced economic activity, whereas the 1996 study only attempted to account for revenues generated through direct boating-related economic activity.

[13] California employment, total all industries, 2000, 14,896,600: California Employment Development Department, www.calmis.ca.gov/file/indhist/cal$haw.xls, 7/16/02.

[14] Estimate is generated using the IMPLAN regional input output model with 1999 California dataset adjusted to 2000 dollars. Total State and local government tax impacts based on direct, indirect, and induced (i.e., due to increased household income generated by direct and indirect economic activities) boating-related economic activity.

Table 1.9
Boating Industry Impact on Statewide Employment, 2000

SIC	Industry or Portion	Estimated Direct Boating Related Jobs	IMPLAN Sector	IMPLAN Employment Multiplier [b]	Total Direct, Indirect, and Induced Contribution to Statewide Employment
5146	Fish Wholesalers [e]	19,359	447	1.830	35,426
5551	Boat Dealers and Equipment	13,395	451	1.510	20,224
3732	Boat Building and Repairing	13,735	393	1.691	23,227
4493	Marinas (wet storage)	5,459	436	3.182	17,370
5012-5091	Boating Wholesale	2,491	447	1.830	4,558
7999	Boat Rental, Charter Boats, Sport Fishing, Instruction	9,936	488	1.207	11,996
5571	Personal Watercraft Dealers	2,619	451	1.510	3,955
5941	Sporting Goods (Boating and Fishing) Dealers	4,640	455	1.256	5,826
6331, 6411	Boat Insurance Companies, Brokers	3,417	459	1.510	5,158
912-919	Commercial Fishing	3,006	25	1.224	3,680
3812	Navigation, Nautical Equipment Manufacturing	1,212	400	2.764	3,350
2091, 2092	Fish Processors	3,332	97	1.620	5,398
2392	Boat Cushions and Covers	2,288	126	1.757	4,020
2394	Canvas & Related Products	1,665	128	1.550	2,581
1629	Boat Dock and Marina Construction	869	49	2.064	1,794
6141	Boat Financing Institutions	1,444	457	1.509	2,179
5541	Marine Service Stations	644	451	1.510	972
3429	Metal Boat Parts, (Hardware, NEC)	424	278	1.923	815
7389	Yacht Brokers and Other Boat Related Services	650	470	1.913	1,243
3999	Dock Manufacturers, Boat Rigging, Watermakers, Masts	595	432	1.712	1,019
4226	Dry Storage	495	435	2.078	1,029
4499	Boat Cleaning, Marine Surveyors	213	436	3.183	678
3663	Marine Communications Equipment	121	373	3.132	379
3674	Solar Equipment	81	377	3.317	269
7997	Boating, Yacht Clubs	1,117	489	1.309	1,462
4213	Boat Trucking	364	435	2.076	756
2721	Boating Publications	172	175	2.503	431
8711	Designing Boats and Yachts	330	506	2.124	701
3069	Fabricated Rubber Products	340	219	2.024	688
7641	Upholsterers	409	481	1.345	550
3949	Sporting Goods Manufacturing	217	421	1.839	399
3561	Pumps & Pumping Equipment	156	332	2.311	361
5531	Marine Battery Dealers	170	451	1.511	257
5211	Building Materials Dealers	228	448	1.327	302
3089	Miscellaneous Plastic Products	199	220	2.221	442
3799	Boat Trailers	182	399	2.088	380
7699	Repair Shops, NEC	221	482	1.519	336
1711, 1731	Boat Building Trades	304	56	1.632	496
3536	Boat Lifts/Hoists	102	316	2.002	204
5169	Coatings and Sealants	61	447	1.833	112
4489	Excursions	49	436	3.163	155
2842, 2891	Boating Adhesive, Cleaning Product Manufacturing	58	197	2.436	141
3519	Internal Combust. Eng., NEC	80	308	2.706	216
5162	Plastics Materials	41	447	1.829	75
4950	Waste Management	20	446	2.405	48
5999	Retail, NEC	52	455	1.254	65
2431	Woodworking	45	137	1.809	81
2399	Fishing Nets, Flags	31	132	1.961	61
3585	Heating and Air Conditioning	27	347	2.296	62
5731	Electronic Equipment	29	453	1.324	38
5131	Fasteners	16	447	1.794	29
3569	Hydraulic Equipment	17	338	2.088	35
2741	Map Publishing	13	178	2.062	27
2298	Rope Manufacturers	28	122	1.718	48
5699	Watersport Apparel	19	452	1.379	26
4725	Dive Tours	4	439	3.150	13
5719	Boat Bedding	14	453	1.307	18
5722	Compressed Natural Gas Equipment	10	453	1.370	14
7539	Engine Repair	7	479	1.514	11
8742	Marketing Consultants	6	508	1.767	11
7538	General Automotive Repair Shops	3	479	1.533	5
3646	Lighting Fixtures	3	369	1.733	5
7221	Boat Photography	5	465	1.340	7
	Total	109,562			97,239

Notes:

a From Table 1.2

b IMPLAN 2002 Regional Input-Output Model, 1999 California Data Set, Adjusted to 2000; Type SAM (Social Accounting Matrix, Induced Effects Due to Increased Household Income).

Sources: Minnesota IMPLAN Group; BAE, 2002.

Table 1.10
Annual Boater Expenditures in Non-Boating Industries Impact on Statewide Employment, 2000

SIC	Industry or Portion	Estimated Direct Jobs	IMPLAN Jobs Multiplier (b)	Direct, Indirect and Induced Employment Impact
5411	Grocery and convenience stores	24,925	1.296	32,303
5812	Restaurants	8,155	1.295	10,559
7011	Lodging and Camping	17,491	1.471	25,726
5541	Gasoline stations (Auto and Boat Fuel)	27,263	1.510	41,162
Misc.	Drugstores, Gift Stores	6,447	1.256	8,096
	Total	84,281		117,847

Notes:
a Excludes boat fuel purchased at marinas.
b IMPLAN 2002 Regional Input-Output Model, 1999 California Data Set, Adjusted to 2000; Type SAM (Social Accounting Matrix, Induced Effects Due to Increased Household Income).

Sources: Minnesota IMPLAN Group; BAE, 2002.

Table 1.11
Summary of Boating-Related Discretionary Tax Impacts, 2000

State Taxes	
Corporate Income Taxes	$51,135,977
Personal Income Taxes	192,422,130
State Share of Direct Sales Taxes [a]	266,093,298
Subtotal	**$509,651,406**
Local Government Taxes	
Property Taxes	
Paid by Businesses	$438,038,937
Paid by Individuals	3,541,969
Local Share of Direct Sales Taxes [a]	53,218,660
Subtotal	**$494,799,566**
Other State and Local Revenues	
Balance of State and Local Direct, Indirect, and Induced Sales Taxes [a]	$395,206,775
Motor Vehicle License Fees [b]	
Paid by Businesses	9,572,948
Paid by Individuals	8,988,038
Total, Selected State and Local Revenues (Annual)	**$1,418,218,732**

Notes:
a Sales taxes include sales taxes generated through boating-related taxable sales as well as revenues generated by other taxable sales generated as a result of other indirect and induced taxable sales. See Table 1.13 for estimates of direct boating-related taxable sales.
b Includes both general purpose and regulatory fees/fees for service; however, the majority of the revenues are discretionary. Recent and pending State law regarding VLF could affect these revenues.

Sources: Table 1.2; Minnesota IMPLAN Group; BAE, 2002.

While many revenues contributing to the total tax impact are generated through levies that are established to offset the cost of services provided (i.e. user fees) or other restricted purposes, or to finance regulatory efforts or other government services directly related to the activity or user subject to the levy, State and local governments rely heavily on certain general purpose revenues that can be used at the discretion of their governing bodies to fund basic municipal services. Income taxes, property taxes, sales taxes, and significant portions of motor vehicle fees represent such discretionary revenues. These general purpose revenues finance important services such as education, public safety, and maintenance of public facilities that typically generate only minimal revenues (e.g. public parks). Of the total annual boating-related tax impacts, these revenue sources represent approximately $1.4 billion, or about 87 percent. **Table 1.11** summarizes these general purpose revenue estimates. Following are descriptions of the revenue sources summarized in Table 1.11 that contribute to the estimated $1.4 billion annual discretionary revenue impact of boating-related economic activity.

Income Tax. Based on direct boating-related economic activity estimated in Table 1.2, the IMPLAN input-output model estimates State government revenues generated through corporate and personal income taxes related to the direct, indirect, and induced boating-related economic activity. For all industries in Table 1.2, IMPLAN estimates that the boating-related activity annually generates $51.1 million in corporate income taxes, and $192.4 million in personal income taxes.

Property Tax. Boating related economic activity generates property taxes in several ways. First, businesses involved in the industry occupy real estate that is subject to property tax. In addition, in California, certain "personal property" items such as equipment and furnishings owned by businesses are subject to property taxation. IMPLAN also links a portion of property taxes paid by individuals on personally-owned real estate to boating related economic activity, because these taxes are paid as a result of the household income induced by the direct and indirect boating industry economic activity. This includes property taxes paid on registered boats, which are considered real property in California. In all, the IMPLAN model estimates that direct, indirect, and induced boating-related economic activity generates $438.0 million in corporate property taxes annually and $3.5 million in property taxes paid by individuals.

Because these property tax estimates are derived from the economic activity in boating industry businesses, and in non-boating industry businesses due to boater expenditures, they do not capture the property taxes paid by individual boat owners who use their boats for personal use and not for business use. The discussion that follows provides an estimate of the property taxes paid by owners of boats for non-commercial uses.

Responses of boat owners in the Survey of Boats and Boaters indicated that the mean property tax paid was $50.92 per boat in 2000. We can then estimate the total property taxes paid on California boats at approximately $47.1 million by multiplying the mean figure by 925,533 total registered and documented boats. It must be noted that some of this $47.1 million represents property taxes paid on boats owned for commercial use, which are also reflected in estimates of revenues from boating-related economic activities in Table 1.11. We have limited data available to estimate the portion of the total paid by owners of boats for personal use; however, there are approximately 5,000 licenses for commercial fishing vessels within the State, plus we have identified 85 documented vessels for other non-recreational uses.[15] Backing out 5,100 vessels from the 925,533 total yields an estimated 920,433 boats for personal use. Multiplying this number by the average property taxes of $50.92 results in an estimated $46.9 million in property taxes paid on boats for owned for personal use. While this estimate still likely overstates the proportion of the $47.1 million in total estimated property taxes paid on boats, because there are likely more than 5,100 boats used for commercial purposes, it demonstrates that in all likelihood the majority of the property taxes collected from boat owners are associated with boats used for non-commercial purposes.

[15] California Department of Fish and Game, commercial fishing vessel licenses; USDOT-MARAD, vessels under 120 feet documented for bowater, freight, or passenger service.

Table 1.12 *(Part 1)*
Detailed Tax Impacts from Boating Activity, 2000

			Indirect Business Taxes					
SIC/Business Class	Corporate Profits Tax	Corporate Dividends	Motor Vehicle License	Other Taxes	Property Tax	State &Local Non-Taxes	Sales Tax	Severance Tax
Boater Spending Impacts in Non-Boating Industries								
Restaurants	$555,077	$6,017	$95,664	$735,062	$4,377,384	$705,686	$7,140,286	$4,854
Lodging and Camping	1,569,664	17,016	204,121	1,568,429	9,340,192	1,505,750	15,235,500	10,356
Groceries and Convenience	2,609,555	28,289	674,396	5,181,922	30,858,998	4,974,838	50,336,467	34,216
Gas Stations	5,138,822	55,708	1,281,937	9,850,151	58,658,892	9,456,512	95,682,994	65,040
Drugstores, Gift Stores	469,521	5,090	118,423	909,936	5,418,785	873,573	8,838,994	6,008
Boating Industry Impacts (By SIC Code)								
5146	$10,893,243	$118,089	$2,731,596	$20,989,044	$124,992,406	$20,150,264	$203,884,651	$138,590
5551	5,597,833	60,684	1,396,443	10,729,987	63,898,427	10,301,187	104,229,600	70,850
3732	3,725,837	40,390	438,376	3,368,394	20,059,211	3,233,784	32,720,109	22,241
4493	5,883,118	63,777	599,892	4,609,452	27,449,871	4,425,246	44,775,579	30,436
5012-5091	1,401,411	15,192	351,419	2,700,232	16,080,222	2,592,323	26,229,677	17,830
7999	1,672,510	18,131	167,293	1,285,447	7,654,996	1,234,077	12,486,648	8,488
5571	1,094,603	11,866	273,061	2,098,147	12,494,729	2,014,299	20,381,106	13,854
5941	989,745	10,729	249,634	1,918,136	11,422,744	1,841,482	18,632,509	12,665
6331, 6411	106,281	1,152	109,172	838,859	4,995,509	805,336	8,148,556	5,539
912-919	1,049,554	11,378	43,509	334,316	1,990,895	320,956	3,247,500	2,207
3812	738,595	8,007	80,934	621,877	3,703,356	597,025	6,040,827	4,106
2091, 2092	1,060,573	11,497	113,144	869,372	5,177,222	834,630	8,444,961	5,740
2392	1,130,471	12,255	78,236	601,152	3,579,937	577,128	5,839,508	3,969
2394	633,892	6,872	41,779	321,024	1,911,738	308,195	3,118,381	2,120
1629	312,072	3,383	39,076	300,255	1,788,056	288,256	2,916,635	1,983
6141	44,899	487	46,120	354,379	2,110,369	340,217	3,442,385	2,340
5541	269,142	2,918	67,140	515,893	3,072,211	495,277	5,011,317	3,406
3429	439,671	4,766	20,300	155,979	928,875	149,746	1,515,159	1,030
7389	375,747	4,073	25,106	192,906	1,148,782	185,197	1,873,865	1,274
3999	299,263	3,244	19,471	149,615	890,974	143,636	1,453,336	988
4499	235,820	2,556	24,046	184,766	1,100,307	177,383	1,794,794	1,220
3663	350,599	3,801	13,578	104,330	621,300	100,162	1,013,450	689
4226	190,960	2,070	18,152	139,476	830,599	133,902	1,354,854	921
3674	254,765	2,762	8,379	64,382	383,405	61,809	625,401	425
4213	152,108	1,649	14,459	111,099	661,612	106,660	1,079,207	734
2721	169,667	1,840	12,393	95,233	567,121	91,427	925,075	629
8711	113,261	1,228	11,557	88,798	528,804	85,249	862,572	587
3069	101,793	1,103	9,849	75,674	450,648	72,649	735,086	499
7641	163,719	1,774	26,817	206,049	1,227,042	197,813	2,001,522	1,360
7997	86,292	936	13,708	105,325	627,224	101,116	1,023,111	696
3949	141,992	1,539	13,820	106,192	632,386	101,948	1,031,534	701
3561	106,722	1,157	10,297	79,118	471,161	75,957	768,546	522
5531	71,117	771	17,741	136,318	811,790	130,870	1,324,173	900
5211	62,641	679	15,942	122,499	729,496	117,604	1,189,937	809
3089	123,292	1,337	10,405	79,947	476,092	76,752	776,589	528
3799	107,482	1,165	10,296	79,114	471,134	75,952	768,503	522
7699	64,493	699	7,402	56,875	338,699	54,602	552,478	376
1711, 1731	64,675	701	7,098	54,540	324,794	52,361	529,796	360
3536	64,112	695	4,816	37,004	220,363	35,525	359,451	244
5169	34,392	373	8,624	66,266	394,620	63,617	643,695	438
4489	52,487	569	5,352	41,124	244,898	39,480	399,472	272
2842, 2891	125,388	1,359	4,127	31,709	188,829	30,442	308,014	209
3519	56,225	610	6,664	51,201	304,909	49,155	497,360	338
5162	23,068	250	5,784	44,447	264,685	42,670	431,748	293
4950	17,644	191	6,576	50,526	300,890	48,507	490,804	334
5999	11,067	120	2,791	21,448	127,726	20,591	208,343	142
2431	13,927	151	1,684	12,941	77,066	12,424	125,708	85
2399	22,937	249	1,305	10,026	59,703	9,625	97,387	66
3585	17,204	187	1,744	13,397	79,784	12,862	130,141	88
5731	8,306	90	2,096	16,103	95,898	15,460	156,427	106
5131	8,833	96	2,215	17,020	101,354	16,340	165,327	112
3569	10,960	119	903	6,940	41,327	6,662	67,411	46
2741	11,790	128	621	4,770	28,408	4,580	46,338	31
2298	9,582	104	1,042	8,007	47,685	7,687	77,783	53
5699	5,515	60	1,354	10,405	61,964	9,989	101,075	69
4725	4,272	46	436	3,347	19,934	3,214	32,516	22
5719	3,957	43	998	7,672	45,685	7,365	74,521	51
5722	2,969	32	749	5,757	34,282	5,527	55,920	38
7539	3,213	35	349	2,682	15,975	2,575	26,057	18
8742	1,650	18	160	1,232	7,335	1,183	11,965	8
7538	1,385	15	150	1,156	6,886	1,110	11,233	8
3646	1,548	17	128	985	5,865	945	9,566	7
7221	1,048	11	98	751	4,472	721	7,294	5
Totals	**$51,135,977**	**$554,344**	**$9,572,948**	**$73,556,617**	**$438,038,937**	**$70,617,092**	**$714,518,733**	**$485,691**

Sources: BAE, based on Table 1.2 and IMPLAN input-out put model using 1999 California dataset adjusted to 2000 dollars and using Type SAM multipliers to estimate induced economic impact.

Table 1.12 *(Part 2)*
Detailed Tax Impacts from Boating Activity, 2000

SIC/Business Class	Personal Taxes					Social Insurance Tax		Total
	Income Tax	Motor Vehicle License	Non Personal-Taxes	Personal Other (Fish/Hunt)	Property Taxes	Employee Contribution	Employer Contribution	
Boater Spending Impacts in Non-Boating Industries								
Restaurants	$2,198,917	$102,711	$584,728	$17,949	$40,417	$41,199	$166,964	$16,772,915
Lodging and Camping	4,868,339	227,400	1,294,254	39,738	89,459	90,934	368,522	36,429,674
Groceries and Convenience	10,595,874	494,933	2,813,485	86,489	194,469	194,896	789,843	109,868,670
Gas Stations	17,273,834	806,861	4,599,089	140,998	317,891	328,638	1,331,849	204,989,216
Drugstores, Gift Stores	1,687,671	78,831	443,852	13,775	30,679	27,295	110,617	19,033,050
Boating Industry Impacts (By SIC Code)								
5146	$38,950,405	$1,819,373	$10,394,205	$317,936	$718,451	$761,944	$3,087,878	$439,948,075
5551	18,816,769	878,931	5,009,890	153,593	346,285	357,993	1,450,812	223,299,284
3732	21,164,435	988,591	5,656,725	172,757	390,995	421,775	1,709,297	94,112,917
4493	20,565,094	960,595	5,491,352	167,866	379,564	405,281	1,642,454	117,449,577
5012-5091	5,010,953	234,062	1,337,210	40,902	92,428	98,024	397,254	56,599,139
7999	4,880,705	227,978	1,289,940	39,838	89,161	84,493	342,417	31,482,122
5571	3,679,440	171,867	979,636	30,034	67,713	70,002	283,693	43,664,050
5941	3,557,592	166,175	935,636	29,038	64,672	57,538	233,179	40,121,474
6331, 6411	4,876,191	227,767	1,295,029	39,802	89,513	89,928	364,446	21,993,080
912-919	2,067,092	96,554	537,283	16,872	37,137	27,852	112,875	9,895,980
3812	4,603,928	215,049	1,232,923	37,580	85,220	93,863	380,391	18,443,681
2091, 2092	4,174,548	194,993	1,116,283	34,075	77,158	83,658	339,035	22,536,889
2392	2,993,204	139,813	797,926	24,432	55,153	57,822	234,332	16,125,338
2394	2,201,316	102,823	587,925	17,968	40,638	43,490	176,249	9,514,410
1629	1,885,516	88,072	496,933	15,390	34,348	31,415	127,313	8,328,703
6141	2,059,963	96,221	547,089	16,814	37,815	37,991	153,962	9,291,051
5541	904,703	42,259	240,873	7,385	16,649	17,212	69,754	10,736,139
3429	855,345	39,953	228,145	6,982	15,769	16,635	67,416	4,445,771
7389	1,148,175	53,631	304,086	9,372	21,019	20,430	82,794	5,446,457
3999	844,321	39,438	225,417	6,892	15,581	16,608	67,304	4,176,088
4499	824,336	38,505	220,117	6,728	15,214	16,245	65,836	4,707,875
3663	611,808	28,577	163,676	4,994	11,314	12,329	49,962	3,090,569
4226	763,251	35,652	201,199	6,230	13,907	12,753	51,683	3,755,608
3674	425,321	19,867	113,712	3,472	7,860	8,506	34,473	2,014,539
4213	607,967	28,398	160,265	4,963	11,078	10,158	41,168	2,991,525
2721	596,999	27,886	158,957	4,873	10,987	11,364	46,057	2,720,507
8711	785,222	36,678	208,489	6,410	14,411	14,435	58,500	2,816,199
3069	405,617	18,947	108,339	3,311	7,488	8,020	32,501	2,031,523
7641	623,940	29,145	163,126	5,092	11,275	9,241	37,454	4,705,368
7997	509,362	23,793	134,522	4,158	9,298	8,730	35,381	2,683,651
3949	353,651	16,519	94,447	2,887	6,528	6,981	28,293	2,539,418
3561	401,633	18,760	107,336	3,278	7,419	7,995	32,399	2,092,300
5531	239,056	11,166	63,648	1,951	4,399	4,548	18,432	2,836,880
5211	235,197	10,986	62,538	1,920	4,323	4,402	17,840	2,576,813
3089	424,216	19,815	113,283	3,463	7,830	8,367	33,907	2,155,823
3799	367,648	17,173	98,197	3,001	6,787	7,269	29,457	2,043,700
7699	269,356	12,582	70,446	2,199	4,869	4,011	16,254	1,455,341
1711, 1731	526,673	24,601	138,521	4,299	9,575	8,525	34,548	1,781,067
3536	231,758	10,825	61,940	1,892	4,281	4,616	18,705	1,056,227
5169	122,972	5,744	32,816	1,004	2,268	2,406	9,749	1,388,984
4489	183,474	8,570	48,992	1,498	3,386	3,616	14,653	1,047,843
2842, 2891	194,028	9,063	51,637	1,584	3,569	3,672	14,880	968,510
3519	220,716	10,310	58,901	1,802	4,071	4,319	17,502	1,284,083
5162	82,482	3,853	22,011	673	1,521	1,614	6,539	931,638
4950	63,113	2,948	16,597	515	1,147	1,020	4,133	1,004,945
5999	39,780	1,858	10,462	325	723	643	2,607	448,626
2431	73,957	3,455	19,676	604	1,360	1,394	5,649	350,081
2399	49,244	2,300	13,115	402	906	940	3,810	272,015
3585	64,064	2,992	17,115	523	1,183	1,270	5,145	347,699
5731	29,707	1,388	7,936	242	549	589	2,387	337,284
5131	31,584	1,475	8,428	258	583	618	2,504	356,747
3569	39,633	1,851	10,591	324	732	788	3,195	191,482
2741	29,598	1,382	7,882	242	545	565	2,290	139,170
2298	41,036	1,917	10,970	335	758	820	3,323	211,102
5699	16,868	788	4,491	138	310	321	1,299	214,646
4725	14,934	698	3,988	122	276	294	1,193	85,292
5719	14,152	661	3,781	116	261	281	1,137	160,681
5722	10,620	496	2,837	87	196	211	853	120,574
7539	9,188	429	2,412	75	167	145	586	63,906
8742	10,377	485	2,757	85	191	192	779	38,417
7538	3,961	185	1,040	32	72	62	253	27,548
3646	4,896	229	1,308	40	90	97	393	26,114
7221	4,406	206	1,144	36	79	58	236	20,565
Totals	**$192,422,130**	**$8,988,038**	**$51,243,557**	**$1,570,660**	**$3,541,969**	**$3,671,346**	**$14,878,596**	**$1,634,796,636**

Sources: BAE, based on Table 1.2 and IMPLAN input-out put model using 1999 California dataset adjusted to 2000 dollars and using Type SAM multipliers to estimate induced economic impact.

Table 1.13
Boating Related Sales Tax Revenues, 2000

1. Total Boating-Related Sales Tax Revenues	**$714,518,733**			
2. Direct Boating Taxable Retail Sales Activity				
Category	**Estimated % Taxable**	**Boating Related Sales**	**Source**	**Taxable Sales**
Grocery and convenience	40%	$1,393,839,886	Table 1.3	$557,535,955
Restaurants	100%	335,607,051	Table 1.3	335,607,051
Hotels and motels	0%	778,169,435	Table 1.3	0
Campgrounds	0%	340,104,385	Table 1.3	0
Gift, book, and other retail	100%	172,254,057	Table 1.3	172,254,057
Drug Stores	67%	119,984,663	Table 1.3	80,389,724
Boating equipment stores	100%	657,445,239	Table 1.3	657,445,239
Gas Stations, boat fuel	100%	1,345,051,585	Table 1.3	1,345,051,585
Gas Stations, auto fuel	100%	1,042,697,559	Table 1.3	1,042,697,559
Marinas, transient berthing	0%	216,158,089	Table 1.3	0
Marinas, parking	0%	69,198,624	Table 1.3	0
Marinas, launching	0%	123,209,574	Table 1.3	0
Marinas, boat fuel	100%	493,221,645	Table 1.3	493,221,645
Marinas, boat/motor rental	100%	12,922,690	Table 1.3	12,922,690
Marinas, gear rental	100%	19,850,362	Table 1.3	19,850,362
Marinas, incidentals	100%	185,410,834	Table 1.3	185,410,834
Equipment Purchases	100%	419,479,269	Table 1.4	419,479,269
Total				**$5,321,865,969**
3. Allocation of Total Estimated Boating-Related Sales Taxes				
Direct Sales Taxes (7.25 Percent of Taxable Sales)				
State General Fund Share of Sales Tax (5.0 percent)				$126,725,286
Local General Fund Share of Sales Tax (1.0 percent)				$25,345,057
Other Restricted State and Local Uses (1.25 percent) [a]				$31,681,321
Additional Indirect, Induced, or Special Voter-Approved Local Sales Tax Levies				$328,683,451
Total				**$714,518,733**

Notes:
a This represents the balance of the Statewide 7.25 percent sales and use tax rate. Some local jurisdictions impose additional sales tax levies for special voter-approved purposes.

Sources: State Board of Equalization; BAE, 2002.

Sales Tax. Sales tax rates vary between a minimum of 7.25 percent and a maximum of 8.25 percent of the value of taxable sales within California. Of this, 5.00 percent is allocated to the State of California general fund, 1.0 percent is allocated for discretionary use in the city or county in which the tax was generated, and the remainder is earmarked for various special uses, including transportation, public safety, and other voter-approved purposes. Boating-related economic activity generates an estimated $714.5 million in sales tax revenues annually, according to estimates generated by the IMPLAN model. As detailed in **Table 1.13**, it is estimated that the State's discretionary share of direct boating-related sales taxes was approximately $266 million in 2000, and local government's discretionary share of direct boating-related sales taxes was approximately $53.2 million in 2000. Beyond this, approximately $400 million in 2000 represents other non-discretionary direct, and discretionary and non-discretionary indirect and induced sales tax revenues accruing to State and local government as a result of California's boating activity.

Motor Vehicle License Fees. The State of California imposes motor vehicle license fees (VLF) in-lieu of property taxes on motor vehicles. The State of California has historically passed on the majority of these revenues to cities and counties in the form of subventions. Other lesser fees that the IMPLAN model calculates in this category includes operators licenses as well as vehicle registration fees. In all, the IMPLAN model estimates that direct, indirect, and induced boating-related economic activity generates $9.6 million in motor vehicle license fees from businesses annually, and $9.0 million from individuals. Of this, the majority would be available for discretionary use; however, due to recent and pending changes in State law regarding VLF, future motor vehicle license fees generated for State and local government may vary substantially.

Although the IMPLAN model is not capable of associating boat registration fees as a boating-related revenue impact specifically, information obtained directly from the Department of Motor Vehicles indicates that over the 1999-2000 and 2000-2001 fiscal years, boat registration fees generated an average of approximately $7,650,000 in revenues annually.[16] These revenues could be considered as within the total motor vehicle license fees discussed above.

E. Conclusions on the Economic Impacts of Boating in California

A summary of our research and findings is provided below.

We prepared an inventory of the California boating industry in late 2001, and early 2002, updating and building upon a 1996 inventory commissioned by the California Department of Boating and Waterways (DBW). For the purposes of this project, our updated inventory represents a "snapshot" of the California boating industry as of late 2001.

[16] Boat license fees vary substantially from odd to even years due to DMV collection procedures. This estimate represents the average revenues per year for the two-year period.

Boating Business Inventory (Table 1.1) ***8,486 establishments***

- Using information from the boating industry inventory, combined with published data from various sources, we estimated the direct, boating-related output of the California boating industry for the year 2000.

Boating Business Direct Output (annual) (Table 1.2) ***$10.4 billion***[17]

- We drew upon survey data from DBW's 2001 Survey of Boats and Boaters to estimate the additional economic output in non-boating industries that is attributable to California boaters' boating-related expenditures in 2000.

Boater Spending in Non-Boating Businesses (annual) (Table 1.5) ***$5.5 billion***[18]

- We estimated the total economic impact of boating activity in California, including direct, indirect, and induced impacts.

Total Boating Impacts on Gross State Product (annual) (Table 1.6) ***$16.5 billion***

- We estimated boating's contribution to statewide employment.

Boating Contributions to State Employment (Table 1.6)

Total Boating-Related Direct Employment	181,520 jobs
Indirect and Induced Contributions to State Employment	102,540 jobs
Total Contributions to State Employment	284,060 jobs

- Finally, we used the IMPLAN model to estimate State and local tax impacts from the direct, indirect, and induced boating-related economic activity.

Boating Contributions to State and Local Tax Revenues (annual) (Table 1.11) ***$1.6 billion***[19]

[17] This figure represents only the boating-related portion of boating businesses' total output.
[18] This figure represents boaters' expenditures in non-boating industries in conjunction with their boating activities.
[19] This figure includes direct, indirect, and induced discretionary tax impacts.

Chapter 1 Appendix

Table 1
List of Boating Industry Directories and Web Sites

Name of Company	Web address	Description	Directory	Business
303 Products	http://www.303products.com	Boating business		X
976-tuna	http://www.976-tuna.com	Boating business		X
A & R Tarpaulins Inc	http://www.abs.uci.edu/depts/purchas/sbdOthruP.html	Boating business		X
A V Upholstery	http://www.highdesertdirectory.com/abc/u/upholstery.htm	Boating business		X
Achilles Inflatable Craft	http://www.achillesusa.com/boats/	Boating business		X
Acrylic Designs	http://www.plasticsusa.com/database/Ac.html	Boating business		X
Action Marine Center	http://www.shopburbank.com/shopping.html#BOAT	Boating business		X
Action Watersports At Timber Cove	http://www.tahoesbest.com/101/coupons2000/ActionWatersports.pdf	Boating business		X
ADM Boat Works	http://www.admboatworks.com	Boating business		X
Admiral Yacht Charters	http://www.admiralyachtcharter.com/admiral.html	Boating business		X
Advance Glass & Mirror	http://www.sandiego.bbb.org/report.html?compid=19002067	Boating business		X
Advanced Battery Systems	http://www.thomasregional.com/scal/advancedbattery/	Boating business		X
Adventur.com	http://www.adventur.com	Adventure sports retailers directory	X	
Adventure Rents	http://www.adventurerents.com/contactus.html	Boating business		X
Adventure Sports Unlimited	http://www.asudoit.com/	Boating business		X
Adventure's Edge	http://www.adventuresedge.com/contact.htm	Boating business		X
Aftershock Power Boats	http://hotboat.org/shockwave/hbmay98.html	Boating business		X
Alan Andrews Yacht Design	http://www.andrewsyacht.com/	Boating business		X
Alcom Marine Electronics	http://www.alcommarine.com/aboutalcom.htm	Boating business		X
All Craft	http://www.oaklandallcraft.com/	Boating business		X
Almanor Inn	http://www.plumas.ca.us/Lodging/CabinsResorts.htm	Boating business		X
Alredy Products	http://www.allredy.com	Boating business		X
Amen Design Group	http://www.onemetre.org/iom/Suppliers.htm	Boating business		X
Ament Marine Service	http://www.citlink.net/~amentmarine/	Boating business		X
American Bow Thruster	http://www.thrusters.com	Boating business		X
American River Raft Rentals	http://www.raftrentals.com/	Boating business		X
Anacapa Marine Services	http://www.amsboatyard.com/	Boating business		X
Anchor Charter Boats	http://www.anchorcharterboats.com/	Boating business		X
Ancor Marine Grade Products	http://www.ancorproducts.com/	Boating business		X
Angel Fire	http://www.angelfire.com/ca/classicmarine/	Classic boat resources directory	X	
Angler's Bait & Tackle	http://www.westcoastangler.com/links/tackle_shops.html	Boating business		X
Anglers Center	http://www.anglerscenter.com/	Boating business		X
Anglers Marine	http://www.anglersmarine.com/	Boating business		X
Anthony Wiley's Scuba Locker	http://scubalocker.com/main/	Boating business		X
Antiques of the Sea	http://www.antiquesofthesea.com/	Boating business		X
Antrim 27	http://www.A27class.org	Boating business		X
Antrim Associates	http://www.antrimdesign.com/	Boating business		X
Any Water Sports	http://www.anywater.com/	Boating business		X
Anytime Power Sports Equipment	http://www.ultimatetahoe.com/directory/thingstodo/winter/snowmobiling.htm	Boating business		X
Aqua Divers	http://www.yubasutterlife.com/buslisting.cfm?CoID=1523	Boating business		X
Aqua Performance Inc	http://www.aquaperformance.com/aphome.html	Boating business		X
Aqua Tech Dive Center	http://www.divecenter.com/	Boating business		X
Aqualarm	http://www.aqualarm.net/	Boating business		X
Aquarius Dive Shop	http://www.aquariusdivers.com	Boating business		X
Aquatech	http://www.aquatech-marine.com/	Boating business		X
Aquatics Unlimited International Equipment Inc.	http://www.eco-web.com/cgi-local/sfc?a=index/index.html&b=register/01158.html	Boating business		X
Ardemco Marine Specialties	http://www.sealandtechnology.com/help.html	Boating business		X
Arneson Industries	http://www.arneson-industries.com/	Boating business		X
Aros Trailers	http://www.arostrailers.com/marine.htm	Boating business		X
Associated Fuel Injection	http://www.boschservice.com/http-docs/dsl/dsca.html	Boating business		X
Associated Pacific Constructors	http://www.slocbe.com	Boating business		X
Atascadero Kayak & Sail	http://www.fastkayak.com/atascadero.html	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Atomic Aquatics	http://www.atomicaquatics.com/about/index.html	Boating business		X
B & J Marine	http://www.bandjmarine.com	Boating business		X
Ballena Bay Yacht Brokers	http://www.ballenabayyachts.com/html/main.html	Boating business		X
Bamboo Reef Scuba Diving	http://bambooreef.citysearch.com/1.html	Boating business		X
Barbary Coast Yacht & Ship Brokers	http://www.barbarycoastyacht.com/	Boating business		X
Barry Paulsen's Boat Center	http://www.bpboatcenter.com/locations.htm	Boating business		X
Bassett Performance Inc.	http://www.bassettracing.com/newpage6.htm	Boating business		X
Bay Engine & Parts Company	http://www.kimhotstart.com/waydist.htm	Boating business		X
Bay Ship & Yacht Company	http://www.bayshipyacht.com/Pages/profile.html	Boating business		X
Bay Yacht & Ship Brokerage	http://www.bayyachts.net/	Boating business		X
Baylor Boat Covers & Tops	http://www.americas-link.com/baylor	Boating business		X
Bayport Yachts	http://www.bayportyacths.com	Boating business		X
Bayside Marine	http://www.baysidemarinesc.com/	Boating business		X
Baytronics-Marine Electronics	http://www.northstarcmc.com/marine_dlrs.htm	Boating business		X
BD Seaman Interior Designs	http://www.i-d-d.com/designers/states/soca.htm	Boating business		X
Beacon Marine	http://www.bluesea.com/Dealer_retail/western.htm	Boating business		X
Beacon Marine Electronics	http://www.kvh.com/sales/pdfs/dlr_sailcomp.pdf	Boating business		X
Beck Electric Supply	http://www.beckelectric.com	Boating business		X
Bell Plastics	http://www.bellplastics.com	Boating business		X
Berkeley Boardsports	http://www.boardsports.com/	Boating business		X
Bert's Mega Mall	http://www.bertsmotorcyclemall.com/	Boating business		X
Big Game Fishing Inc.	http://www.biggamefishinginc.com/2002.htm	Boating business		X
Bim Bantry Industrial and Marine Corporation (BIM)	http://www.suncorstainless.com/sscart/distrib.html	Boating business		X
Blue Dragon Charters/Party Boat Patty C	http://www.bluedragoncharters.qpg.com/	Boating business		X
Blue Magic Products	http://www.bluemagic.com/	Boating business		X
Blue Porpoise Marine	http://www.blueporpoise.com/	Boating business		X
Bluewater Performance	http://partsboy.com/bwaboutus.htm	Boating business		X
Boat & Motor Mart	http://www.boatandmotormart.com/	Boating business		X
Boat Builders and Sailors	http://www.boatbuildersandsailors.com/contact.html	Boating business		X
Boat Country	http://www.jetpilot.com/wake/dealers.asp	Boating business		X
Boat Mall	http://www.boatmall.com/	Boating retailers directory	X	
Boat repair .net	http://www.boat-repair.net/california1.htm	Directory of boat repair shops	X	
Boat Services Information	http://www.boattransport.com	Boating related businesses list	X	
Boat Smart	http://www.boatsmart.com	Boating retailer list	X	
Boat Store	http://www.boatstoresandiego.com/	Boating business		X
Boat U.S.	http://www.boatus.com	Boating related businesses list	X	
Boatech Inc.	http://www.kobelt.com/us_california_1.html	Boating business		X
Boaters Friend	http://www.ritchieavigation.com	Boating business		X
Boating directories	http://www.boating-directories.com	Boating directory	X	
Boating.net	http://www.boatingnet.com	Boating directory	X	
Boatingnet	www.boatingnet.com	Boating resources directory	X	
Boats Unlimited	http://www.boatsunlimited.ws/Pages/About.htm	Boating business		X
Boatswains Locker	http://www.boatswainslocker.com	Boating directory	X	
Bob Sands Fishing Tackle	http://www.braidproducts.com/retailers/proshops2.html	Boating business		X
Bob's Bait & Tackle	http://www.luckycraft.com/LuckyCraft/locator.asp?state=CA	Boating business		X
Boss Accessories	http://www.bossaccessories.com/main.html	Boating business		X
Bottom Time Scuba Equipment	http://www.pe.net/~diving/botime.html	Boating business		X
Bravura Boats	http://www.bravurayachts.com/index.htm	Boating business		X
British Marine & Industrial	http://www.britishmarine-usa.com/	Boating business		X
Bronson Hill Propellers	http://powerboat.about.com/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.boatpropellers.com%2F	Boating business		X
Brunot Insurance Agency/Allstate	http://www.insuguy.com/contact.htm	Boating business		X
Buchanan Auto Electric, Inc.	http://www.virtualitalia.com/rs/auto.shtml	Boating business		X
Bucksport Sporting Goods	http://www.reninet.com/bucksport/	Boating business		X
Buenger Enterprises	http://www.wholesalehunter.net/buengerenterpriseslist.html	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Burt & Burt, Inc.	http://www.buildingtradesdir.com/guilds/california/California/5/ca4.html	Boating business		X
Butte Sailing Club	http://www.buttesailingclub.org	Boating business		X
C S Marine Constructors, Inc.	http://www.csmarine.com/	Boating business		X
California Department of Boating and Waterways	http://www2.dbw.ca.gov/brokers/branch.asp	Yacht brokers & retailers list	X	
Cabrillo Yacht Sales	http://www.cabrilloyachts.com/	Boating business		X
Cal School of Diving	http://www.caldive.net/	Boating business		X
Caldera Kayaks	http://www.calderakayaks.com	Boating business		X
California Canoe & Kayak	http://www.calkayak.com/stores.htm	Boating business		X
California Classic Boats	http://www.californiaclassicboats.com/index.htm#general	Boating business		X
California Correct Craft	http://www.californiacorrectcraft.com/	Boating business		X
California Cruising Yachts	http://boat.recycle.net/trade/bt000206.html	Boating business		X
California Custom Marine	http://www.wonbass.com/sponsors/calcustom.htm	Boating business		X
California Delta	http://www.californiadelta.org	Boating related businesses in Delta list	X	
California Marine Service Center	http://california-marine.com/california2005.htm	Boating business		X
California Skier Mastercraft	http://www.californiaskier.com/	Boating business		X
California Surfer	http://www.websitedesigngroup.com/calsurf.htm	Boating business		X
California Watersports	http://www.oceanmaster.com/NewDealerPage/TheStates/California/California.htm	Boating business		X
Caltech Sailing Club	htpp://www.cco.caltech.edu	Boating business		X
Cambria Exxon Service & General Store	http://www.energy.ca.gov/fuels/gasoline_stations/sanluisobispo.html	Boating business		X
Camera Tech	http://www.cameratech.com/	Boating business		X
Camp Quest	http://berkeleyliving.com/results/index.cfm?catid=144&toplevel=1	Boating business		X
Capitol Yamaha	http://www.capitolyamaha.com	Boating business		X
Captain Aqua's Dublin Dive Center	http://www.captainaqua.com/	Boating business		X
Captain Hooks Sportfishing	http://www.captnhooks.net/pages/home.html	Boating business		X
Carrera Boats	http://www.carreraboats.com/	Boating business		X
Casini Ranch Family Campground	http://www.love2camp.com/casini_ranch.htm	Boating business		X
Cass' Marina	http://www.cassmarina.com/index.shtml	Boating business		X
Catalina Channel Express	http://www.catalinaexpress.com/public_html/indexcatex.html	Boating business		X
Catalina.com	http://www.catalina.com	Catalina resources directory	X	
Cays Yacht Sales	http://www.caysyachtsales.com/profile_frame.htm	Boating business		X
CB Headquarters	http://www.cal4wheel.com/clubs/northassoc.html	Boating business		X
Celestron International	http://www.celestron.com/products.htm	Boating business		X
Central Coast Watersports	http://www.skislo.com/profile.cfm	Boating business		X
Central Valley Marine	http://www.cvmarine.com/	Boating business		X
CGPC Enduratex Vinyl Upholstery Fabrics	http://www.cgpcamerica.com	Boating business		X
Charter Connection, The	http://www.physics.helsinki.fi/whale/usa/californ/charterc.html	Boating business		X
Chico Dive Center	http://chicodivecenter.com/	Boating business		X
Cisco's Sportfishing	http://www.sport-fish-info.com	Boating business		X
City of Fresno	http://www.fresno-online.com/businesses/B/boats.htm	City of Fresno Chmbr of Cmrce business directory	X	
City of Hemet	http://www.hemet411.com/subcats/sub_b/Boats.shtml	City of Hemet business directory	X	
City of Imperial Beach	http://www.cityofib.com	City of Imperial Beach boating businesses dir.	X	
City of Sausalito	http://www.sausalito.net/bus-directory/bus-listings/boat.html	City of Sausalito business directory	X	
Clavey River Equipment	http://www.clavey.com/a_welcome.html	Boating business		X
Clawson Honda Of Fresno	http://www.clawsonhonda.com/about.htm	Boating business		X
Coast Chandlery	http://www.chandlery.com	Boating business		X
Coast Distribution System Inc	http://www.hoovers.com/co/capsule/5/0,2163,11825,00.html	Boating business		X
Coast Fuel Injection	http://www.coastfuelinjection.com/body_index.htm	Boating business		X
Coast Marine & Industrial, Inc.	http://www.comarsf.com/	Boating business		X
Cobbs Watercraft Center	http://www.worxusa.com/aboutworx.htm	Boating business		X
Cobra Kayaks/Glenwa Inc	http://www.cobrakayaks.com/press_ims/sda.html	Boating business		X
Cobra Performance Boats	http://www.cobraperformanceboats.com/	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Cole Boats	http://www.rivertoys.com/new_directory/cole.html	Boating business		X
Commander Boats	http://www.commanderboats.com/	Boating business		X
Commodore Dining Cruises	http://chefmoz.org/United_States/CA/Lafayette/Commodore_Dining_Cruises,_Inc.957844617.html	Boating business		X
Condor Cruises	http://www.condorcruises.com	Boating business		X
Connolly-Pacific Company	http://www.kniferiver.com/docs/pres.html	Boating business		X
Coordinated Equipment Company	http://www.ceccwrr.com	Boating business		X
Cope & Mcphetres Marine	http://www.copeandmcphetres.com	Boating business		X
Corbett's Valley Market	http://www.fallriverchamber.net/accommodations.asp	Boating business		X
Corinthian Yacht & Ship Brokerage	http://www.bucnet.com/corinthianyachts/	Boating business		X
Corona Powersports	http://www.coronapowersports.com	Boating business		X
Coronado 15 Class Racing Association	http://www.io.com/~c15/	Boating business		X
CP Performance	http://www.cpperformance.com/	Boating business		X
Creative Sports Enterprises	http://www.redington.com/dealersdc.html	Boating business		X
Crew West Marine Systems	http://www.crewwest.com/	Boating business		X
Cummins Cal Pacific, Inc.	http://www.calpacific.cummins.com	Boating business		X
Cummins West, Inc.	http://www.west.cummins.com/na/pages/en/distributors/sanfran/index.cfm	Boating business		X
Cyclepro Of Santa Rosa	http://www.motorcyclepro.com	Boating business		X
Daily Report	http://64.70.237.47/dailyreport/California/Bay_Area_Lakes/Default.htm	Resources dir.	X	
Dana Point Harbor	http://www.danapointharbor.com	Dana Point Harbor directory	X	
Dana Point Jet Ski	http://www.danapointjetski.com	Boating business		X
Dave's Yacht Sales	http://yachts.webshq.com/show.php3?Which=361575	Boating business		X
Davis Boats	http://www.davisboats.com/	Boating business		X
Day Sailor Yacht Class Association.	http://www.daysailer.org	Boating business		X
Delta Angler Fly Shop	http://www.larvalace.com/westcoast.html	Boating business		X
Delta Boating	http://www.deltaboating.com	Delta retailers dir.	X	
Delta Pacific Yachts at Willow Berm Marina	http://www.marinesource.com/DeltaPacificYachts/index.cfm	Boating business		X
Delta Propeller Service	http://home.inreach.com/wolfman/delta.htm	Boating business		X
Delta Sport Boats, Inc.	http://www.deltasportsboats.com	Boating business		X
Depth Perceptions	http://www.skunk.net/scubastores.htm	Boating business		X
Design Concepts	http://www.designconceptsinc.com/home.htm	Boating business		X
Detco	http://www.detcosterling.com/	Boating business		x
Detco Marine	http://www.detcomarine.com	Boating business		X
Diablo Marine Services	http://www.diablomarine.com	Boating business		X
Dick Simon Marine	http://www.dicksimonmarine.com/	Boating business		x
Dickson Stern Thrusters	http://www.dickson-thruster.com	Boating business		X
Digital City	http://www.digitalcity.com	Retailers directory	X	
Discovery Bay Chandlery	http://www.islandgirlproducts.com/dealer.html	Boating business		X
Discovery Bay Yacht Sales	http://www.discoverybayyachts.com/	Boating business		x
Dive Directory	http://www.divedirectory.com/centers/ca1.htm#S	Dive center dir.	X	
Diver 411	http://www.diver411.com/CaliforniaTZ.html	Diver information website	X	
Diver Dan's Wet Pleasure	http://www.diverdans.com/	Boating business		X
Doelcher Products, Inc.	http://www.doelcher.com/	Boating business		X
Dollar A Foot RV & Boat Storage	http://www.dollarafoot.com	Boating business		
Don Sheetz Guide Service	http://www.virtualtahoe.com/playground/SummerActivities/FishingTahoe.html	Boating business		X
Don's Bait Shop	http://www.catfished.com/donsbait.html	Boating business		X
Downwind Marine	http://www.downwindmarine.com/	Boating business		X
Ducky Products	http://www.duckyproducts.com/	Boating business		X
Duffield Electric Marine	http://www.duffyboats.com/showroom/showroom.html	Boating business		X
Eagle Houseboats	http://www.eaglehouseboats.com	Boating business		X
ECI Water Ski Products	http://www.watersportsindustry.com/Pages/manufacturers.PDF	Boating business		X
Eddie Marine	http://www.eddiemarine.com/cart/contact.asp	Boating business		X
Edgewater Yacht Sales	http://www.edgewateryachts.com/	Boating business		X
Edinger Marine Service	http://www.spectrawatermakers.com/edinger/	Boating business		X
Eliminator Boats	http://www.eliminatorboat.com/	Boating business		X
Embarcadero Yacht Center	http://www.embarcaderoyachtcenter.com/page400972.htm	Boating business		X

Table 1 ***(cont.)***

Name of Company	Web address	Description	Directory	Business
Empire Marine	http://www.empiremarine.com/	Boating business		X
Endo's Water Ski Werks	http://www.hotbuddyproducts.com/ref_calif.htm	Boating business		X
Englund Marine Supply Company	http://www.englundmarine.com/	Boating business		X
Environment Yellow Pages	http://www.enviroyellowpages.com	Yellow pages dir.	X	
Etco Marine	http://www.etcomarine.com/	Boating business		X
Eurosail Club, Charters, & Brokerage	http://www.eurosailcharters.com/contact.html	Boating business		X
Excite Yellow Pages	http://ypng.infospace.com	Yellow pages dir.	X	
Fairfield Cycle Center	http://www.fairfieldcyclecenter.com/	Boating business		X
Fairwind Yacht Club	http://www.fairwind.org	Boating business		X
Fanon Courier	http://www.fanon.com/us.htm	Boating business		X
Farallon Boats	http://www.farallonboats.com/default.asp	Boating business		X
Fat Cat Sales/Hydro Hoist Boat Lifts	http://www.upyourboat.com/	Boating business		X
Fator's Motorcycle Sales	http://www.fators.com	Boating business		X
Filter Supply Company	http://www.92.thomasregister.com/dc/filtersupplyco/	Boating business		X
Filtration Concepts	http://www.filtrationsconcepts.com	Boating business		X
First New England Financial	http://www.boatmassachusetts.com/members/firstnewengland.html	Boating business		X
Fisherman’s Landing Tackle Shop	http://www.saltwatertackle.com/contact.htm	Boating business		X
Fisherman's Marine	http://www.anglerboats.com/california.htm	Boating business		X
Fleming Yachts	http://www.flemingyachts.com/flemingyachts.html	Boating business		X
Flojet Corporation	http://www.flojet.com/contact.shtml	Boating business		X
Flying Scot Yacht Class Association	http://www.fssa.com	Boating business		X
Force Offshore	http://www.forceoffshore.com/index.htm	Boating business		X
Four Seasons Outfitters	http://www.weatherby.com/dealers/Californ.shtml	Boating business		X
Fox Marine Specialties, Inc.	http://www.navpod.com/wheretobuy.html	Boating business		X
Frank's Fisherman’s Supply	http://www.cavemanclothing.com/clothing_retailers.html	Boating business		X
Fred Fritz Electronics, Inc.	http://www.e-boatronics.com/	Boating business		X
Fred's Cycle & Sports	http://www.mybikesite.com/socal/shops/rc__2.htm	Boating business		X
Freeline Designs	http://www.yater.com/dealers.html	Boating business		X
Fremont Scuba	http://www.voiceone.com/html/scubalink.html	Boating business		X
Fujita's Garden, Inc.	http://www.telephoneguide.com/ SF092600-nurseries-plants-trees-retail.htm	Boating business		X
G Fiorentino Marine Sales	http://www.boatshowsusa.com/achives/annapolis_sail/ exhibitors/page10.html	Boating business		X
Galaxie Boats	http://www.galaxieboats.com/	Boating business		X
Ganis Credit Corporation	http://www.ganiscredit.com	Boating business		X
Garhauer Marine Corporation	http://garhauermarine.com/	Boating business		X
Gary's Plastic Place	http://www.koolstop.com/GarysPlastic/	Boating business		X
Geocities.com	http://www.geocities.com	Business directory	X	
Get N Wet Enterprises	http://www.getnwet.com/location.phtml	Boating business		X
Gilroy Scuba	http://www.makeitclean.com/gilroyscuba/	Boating business		X
Glende Polaris	http://www.go-polaris.com	Boating business		X
GLM Products, Inc.	http://www.glm-marine.com/	Boating business		X
Go Boating	http://www.goboatingmag.com/sea_web/april00/ socal_boatyard_2000.htm	American boating business directory	X	
Golden Hinde Marina	http://www.goldenhindeinn.com/	Boating business		X
Goleta Marine	http://www.santabarbara.net/yellow/yell16.html	Boating business		X
Grand Banks Yachts, Ltd.	http://www.grandbanks.com/home.html	Boating business		X
Gridley Growers, Inc.	http://www.gridleygrowers.com/	Boating business		X
Grisanti Hardware	http://www.atascaderochamber.org/Business.asp?CategoryID= 83&CategoryName=Hardware	Boating business		X
GTH Marine	http://www.glen-l.com/resources/msjetsup.html	Boating business		X
Guenter's Outboards	http://www.guenters.com/	Boating business		X
GY.Com	http://www.gy.com/biz	American business directory	X	
H & S Yacht Sales	http://www.hsyacht.com/sdpower.htm	Boating business		X
Hallett Boats/ Barron Boats Inc	http://www.hallettboats.com/portside/contact.html	Boating business		X
Halsey Lidgard San Francisco	http://www.halseylidgardpacific.com/	Boating business		X
Hammer's Ski and Marine Inc.	http://www.hammerski.com/	Boating business		X
Handcraft Mattress Co.	http://www.boatbeds.com/	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Harman Marine	http://www.harmanmarine.com/	Boating business		X
Harrison's Marine Center	http://harrisonsmarine.net/	Boating business		X
Henderson Marine Supply	http://www.hendersonmarine.com	Boating business		X
High Torque Marine	http://www.hightorquemarine.com/contact.htm	Boating business		X
Hillside Honda/Yamaha Marine	http://www.hillside-honda.com/	Boating business		X
Hiouchi Hamlet	http://www.wheelersguides.com/newwork/wheelerinfo.cfm?ID=1340	Boating business		X
Hogin Sails	http://www.hoginsails.com	Boating business		X
Holiday Marine Sales	http://www.holiday-marine.com	Boating business		X
Homewood Hardware	http://www.homewoodhardware.com/	Boating business		X
Honda of Hollywood	http://www.honda4u.com	Boating business		X
Honda/Yamaha of Lompoc	http://www.toys4totscentralca.org/lompoc.htm	Boating business		X
Honor Marine Communications	http://www.orbimage.com/partn/honormarinehq.html	Boating business		X
Hood Sailmakers Costa Mesa	http://www.hood-sails.com	Boating business		X
Hook Sportfishing Charters	http://www.hooksportfishing.com/contactus.htm	Boating business		X
Hook, Line & Sinker	http://www.hooklineandsinkertackle.com/hooklineandsinker/ ContactUs.asp	Boating business		X
Hotboat.net	http://free.hotboat.net/tests/docs/Caliber_1_2280_Silencer.htm	Boating retailers directory	X	
Houseboats.com	www.houseboats.com	Houseboating resources directory	X	
Howard Custom Boats	http://www.howardboats.com/	Boating business		X
Huck Finn Sportfishing	http://www.coastsidelive.com/ACTIV/wtrsport.html	Boating business		X
Huebner Sports Specialty Shop	http://www.dtek.chalmers.se/Climbing/Commercial/shopsUS.html	Boating business		X
Humboldt County	http://www.humboldtcounty.com/recrea.htm	Humboldt county recreation dir.	X	
Hurricane Gulch Yacht club	httpwww.hgyc.com	Boating business		X
I need storage	http://www.ineedstorage.com	Self Storages in America directory	X	
IBOATS.COM	http://www.iboats.com	Boating retailer list	X	
Ignitioneering	http://www.ignitioneering.com/	Boating business		X
Indmar Marine Engines	http://www.theopinionsite.com/boats/boat_accessories.htm#I	Boating business		X
International Contender Association	http://www.sailingsource.com/contender/	Boating business		X
International Marine	http://www.boatshow.com/InternationalMarine.html	Boating business		X
International Thunderbird Yacht Class Association	http://www.thunderbirdsailing.org/index.htm	Boating business		X
ITT Jabsco Products	http://www.jabsco.com	Boating business		X
JD's Big Game Tackle	http://www.jdsbiggame.com/index01.htm	Boating business		X
Jerry's Boat Center	http://www.kernvalley.com/news/autoserv.htm	Boating business		X
Jet World	http://www.jet-world.com/index.htm	Boating business		X
Jetpro	http://www.jetpro.com/pwc.html	Boating business		X
Joe Gerard Signs	http://socalcontractors.com/meet/mtp47.html	Boating business		X
John's Custom Marine	http://stokerboats.com/	Boating business		X
Kawasaki Motors Corporation, USA	http://www.kawasaki.com/worldwide/index.html	Boating business		X
Kawasaki of Santa Barbara	http://www.mcmart.com/mall/dealers/KawSantaBarb.html	Boating business		X
Kayak Connection	http://www.kayakconnection.com/	Boating business		X
Keco, Inc.	http://www.pumphead.com	Boating business		X
Ketch Joanne Restaurant & Harbor Bar	http://www.airnav.com/airport/HAF/KETCH_JOANNE	Boating business		X
Kingfish Guide Service	http://www.tahoenevada.com/_things/25.html	Boating business		X
Kiwi Kayaks	http://www.kiwikayaks.com	Kiwi Kayak dealers list	X	
Klamath Boat Co.	http://www.klamathboats.com/Default.htm	Boating business		X
Knight & Carver Yacht Center	http://www.knightandcarver.com/repair.html	Boating business		X
Laguna Canvas	http://www.lagunacanvas.com	Boating business		X
Lake Almonor	http://www.almanor.com/activities.html	Boating resources directory	X	
Lake Mission Viejo Yacht Club	http://r.t.robison.att.net/	Boating business		X
Lake Oroville	http://lakeoroville.com	Lake Oroville resources list	X	
Lake Tahoe Boat Service	http://www.tahoeboating.com	Lake Tahoe boating related businesses list	X	
Larry's Fish & Dive	http://www.tusch.com/monterey.html	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Larry's Market	http://www.visitormags.com/humboldt/directory/market.html	Boating business		X
Larsen Sails	http://www.larsensails.com	Boating business		X
Larson Marine	http://www.crestliner.com/dealers/zsearch.asp?ZipSearchSubmit=1&ZipCode=95825	Boating business		X
Laser Boats	http://laserboats.boats.com/	Boating business		X
Lassen County Chamber of Commerce	http://www.lassencountychamber.org/lodging.html	Lassen County resources directory	X	
Leica Geosystems, Inc.	http://www.leica-geosystems.com	Boating business		X
Leisurecraft Insurance Agency, Inc.	http://www.myboatforsale.com/insurance.html	Boating business		X
Let's Talk Hookup	http://wsradio.ws/let's_talk_hookup.htm	Boating business		X
Lewdon Enterprises	http://www.lewdon.com/	Boating business		X
Lew's Bait & Tackle	http://www.predatorfishbait.com/retailers.html	Boating business		X
Lifestream Watersystems, Inc.	http://www.lifestreamwater.com	Boating business		X
Limitless Sportfishing Charters	http://www.limitlesssportfishing.com/index.html	Boating business		X
Loft Canvas Designs	http://www.loftcanvas.com	Boating business		X
Lois Ann Dive Charters	http://www.loisann.com/schedule.html	Boating business		X
Maas Boat Company	http://www.maasboats.com/	Boating business		
Mackey Marine	http://www.power-wind.com/	Boating business		X
Malcolm Smith Motorsports	http://216.41.163.25/index.html	Boating business		X
Malibu Boats	http://www.malibuboats.com/hp.asp?ID=1	Boating business		
Map Center	http://www.ucmp.berkeley.edu/people/brs/books/mapcenter.html	Boating business		X
Marin Skin Diving	http://www.marinskindiving.com/index2.html	Boating business		X
Marina Del Rey	http://www.marinadelrey.com/activities.html	Marina Del Rey directory	X	
Marina Recreation Association	http://www.marina.org	Boating business		X
Marine Concepts	http://www.mirage-net.com/Members/Marine/	Boating business		
Marine Graphics, Inc.	http://www.marinegraphics.com/	Boating business		X
Marine Hardware Company	http://www.marexlalb.org/subsl.htm	Boating business		X
Marine Motorsports	http://www.marinemotorsports.com/	Boating business		X
Mariners Guide	http://www.marinersguide.com	Oakland ships chandlers and marine supply stores list	X	
Mark Plastics	http://www.amiyachts.com/parts.html	Boating business		X
MB Sports	http://www.mbsports.net/main.htm	Boating business		
Melges 24 Yacht Class Association	http://www.melges24.com/usmca/index.asp	Boating business		X
Merit 25 Yacht Class Association	http://www.well.com/user/pk/M25.html	Boating business		X
Mickey's Big Mack Charters	http://www.mickeysbigmack.com/tahoe/SITE/top/listing.cfm/activity/2/0/direct?c=1	Boating business		X
Mile High Fishing Charters	http://www.fishtahoe.com/	Boating business		X
Mission Bay Aquatic Center	http://www.mbac.nu/	Boating business		X
Mission Yamaha	http://www.missionyamaha.com/	Boating business		X
MMI Marine	http://www.mmimarine.com	Boating business		X
Modern Sailing Academy	http://www.modernsailing.com/loc.html	Boating business		X
Monarch Yacht Sales	http://www.bestofalameda.com	Boating business		X
Monterey Bay Dive Center	http://www.mbdc.to/	Boating business		X
Monterey Bay Kayaks	http://www.montereykayaks.com/geninfo.html#moss	Boating business		X
Monterey Bay Wetsuits	http://darwin.bio.uci.edu/~rvilla/shop.html	Boating business		X
Moonlite Marine Corporation	http://moonlitemarine.com/contact.htm	Boating business		X
Moss Landing Marine Supply	http://www.lodging.com/auto/localview-new.cgi?article=4270	Boating business		X
MSN Yellow Pages	http://yellowpages.msn.com	Yellow pages dir.	X	
Multi-Sail Performance Sails	http://www.msail.com	Boating business		X
Mustang Sports Fishing	http://www.sdhookandline.com/charters.html	Boating business		X
N.A. D Arcy Company	http://www.nadarcy.com/	Boating business		X
Nam Yang Marine	http://www.namyang.net	Boating business		X
Nautical Heritage Society	http://www.californian.org/	Boating business		X
Nautilus Diving & Sports Center	http://www.nautilusdivecenter.com/	Boating business		X
Neil Pryde/Rival Sails	http://www.neilprydesails.com/addressframe.htm	Boating business		X
Nelson/Marek Yacht Design	http://nelson-marek.com/	Boating business		X
Nelson's Marine/ Alameda Point Yacht Sales	http://www.nelsonsmarine.com	Boating business		

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
New Outdoor Store	http://www.ojai-int.com/dealers/california.html	Boating business		X
No Ka Oi Luxury Charters	http://monterey.winecountry.com/thingstodo/tours/listings.html#N	Boating business		X
NorCal Marine Association/ Spring & Fall Boat Shows	http://www.ncma.com	Boating business		X
Nordskog Performance Products	http://www.nordskogperfomrance.com	Boating business		X
North Beach Marine	http://www.northbeachmarine.com/	Boating business		X
North Coast Divers Supply/ Lost Coast Adventures	http://www.packardhouse.com/todo.html	Boating business		X
North County Yamaha	http://www.ncyyamaha.com/home.asp	Boating business		X
North Sails	http://www.northsails.com	Boating business		X
North Tahoe Beach Center	http://www.sfgate.com/traveler/guide/renotahoe/beaches.shtml	Boating business		X
Northern California bass fishing	http://www.ncbf.com/ads/hook.html	Bass Fishing resources directory	X	
Northern California Power Cruiser Association	http://www.ncpca.com/members/members.html	Boating business		X
Northern Surplus, Inc./ Northern Mountain Supply	http://www.killerdeals.com	Boating business		X
Noyo Fishing Center	http://fortbraggfishing.com/Contact.html	Boating business		X
Oakley Sport & Garden	http://www.discovery-bay-chamber.com/members.html#O	Boating business		x
Ocean Pacific Yacht Sales	http://www.opyachts.com/	Boating business		X
Ocean Quest Dive Center, Inc.	http://www.scubadivers.ws/ctrusca.htm	Boating business		X
Ocean Racing & Catamaran Association	http://home.earthlink.net/~dbeiley/orca/	Boating business		X
Oceanic USA	http://204.247.176.228/PDF_Docs/12-6012.pdf	Boating business		X
Oil Filter Service, Inc.	http://www.oilfilterservice.com	Boating business		X
Old Ranchers Canning Company, Inc.	http://www.worldtrade.org/afb/siccodes/ details_siccodes-2032-o.htm#47405	Boating business		X
Oliver's Marine Center	http://www.maderaonline.com	Boating business		X
Olympic Boat Center	http://www.boatnut.com/	Boating business		X
O'Neill Yacht Center	http://www.oneillyachts.com/index.cfm?fuseaction=home	Boating business		X
Orange Coast College Sailing Center	http://www.occsailing.com/pages/contact.html	Boating business		X
Orlandi Trailer	http://www.orlanditrailer.com/	Boating business		X
Outboard Center	http://outboardcenter.com/html/service.html	Boating business		X
Outboard Center	http://www.averyoutdoors.com/pages1/dealers.htm	Boating business		X
Outdoor Links	http://www.outdoor-links.com/stores/c.htm	Outdoor activities retailers directory	X	
Oversea Insurance Agency, Inc.	http://overseainsurance.com/	Boating business		X
Pacific Fibre & Rope, Inc.	http://www.pacificfibre.com	Boating business		X
Pacific Jet Sports	http://www.pacificjetsports.com/	Boating business		X
Pacific Motorsports	http://www.pacificms.com/	Boating business		X
Pacific Offshore Divers, Inc.	http://www.podih2o.com/	Boating business		X
Pacific Offshore Rigging	http://pacificoffshorerigging.com/contact_us.htm	Boating business		X
Pacific Queen Sportfishing	http://www.pacificqueensportfishing.com/	Boating business		X
Pacific Seacraft Corporation	http://www.pacificseacraft.com/	Boating business		X
Pacific Trailers	http://www.pacifictrailers.com	Boating business		X
Pacific Yachting & Sailing	http://www.pacificsail.com/	Boating business		X
Pacific Yachts	http://members.aol.com/pacyachts/pacyacht.html	Boating business		X
Paddle Power	http://www.paddlepowerkayaks.com	Boating business		X
PAN PACIFIC FISHERIES INC	http://www.dailybreeze.com/content/bln/nmbcannery30.html	Boating business		X
Paradise Ski & Marine	http://www.wettech.com/dealers_usa_west.html	Boating business		X
Passage Yachts	http://www.passageyachts.com/	Boating business		X
Pearson Unlimited	http://www.pearsonunlimited.com/Contact.html	Boating business		X
Pearson's Marine	http://www.pearsonsmarine.com	Boating business		X
Performance Handicap Racing Fleet of San Diego	http://www.phrfsandiego.org	Boating business		X
Pete's Sport Shop	http://www.maderainfo.com/petessport/pete.html	Boating business		X
Phantom Marine	http://www.phantommarine.com	Boating business		X
Pineapple Sails	http://www.sailmakers.com	Boating business		X
Pinnacles Dive Center	http://www.montereyexpress.com/PinnaclesDiveCenter.htm	Boating business		X
Piranha Propellers	http://www.piranhapropellers.com/dealersa_g.htm	List of dealers	X	
Piranha Propellers	http://www.piranhapropellors.com	Boating business		X
Pleasure Point Inn & Charters	http://www.innsite.com/inns/B007643.html	Boating business		X
Poco Sales	http://www.pocosales.com/	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Point Lomas Sport Fishing	http://www.pointlomasportfishing.com	List of Pt. Lomas sportfishing chtrs	X	
Polaris Supreme Sportfishing	http://www.polarissupreme.com/	Boating business		X
Port of San Diego	http://www.portofsandiego.org	Port of San Diego Business directory	X	
Port Supply/Lifesling	http://old.cruisingworld.com/ssbk/address_book/add99p.htm	Boating business		X
Porta-Bote International	http://www.porta-bote.com/	Boating business		X
Potter Electric, Inc.	http://www.potter-electric.com/	Boating business		X
Potter Yachters of Northern California	http://www.potter-yachters.org	Boating business		X
Poway Bait & Tackle	http://www.sdfish.com/contact.htm	Boating business		X
Powerboat Lighting.com	http://www.powerboatlighting.com	Boating business		X
Precision Marine Hardware	http://www.precisionoutriggers.com/	Boating business		X
Predicted Log Racing Assoc. of Nor Cal	http://plra.org/plra/	Boating business		X
Premier Yacht Sales	http://www.sfyachts.com/	List of San Fran. Sportfishing chtrs	X	
PRIMEX of California	http://www.watertribe.com/_WTRegatta/00000045.htm	Boating business		X
Privateer Ship Building	http://www.celtfilm.com/privateer.html	Boating business		X
Pro Marine	http://www.bioweb.net/clients/promarine/	Boating business		X
Professional Mariner	http://www.pmariner.com/contact/	Boating business		X
Propeller Solutions, Inc.	http://www.propellersolutions.com	Boating business		X
Proper-Tighe Marine	http://www.diymarine.com/diypages/California_dealers.asp	Boating business		X
Pro-Tec	http://www.pro-tecperformance.com/	Boating business		X
Qualy-Pak Specialty Foods, Inc.	http://www.vernongov.org/listf.html	Boating business		X
Quinsey Kawasaki-Suzuki	http://www.quinsey.com/qhome.asp	Boating business		X
Radio Holland Long Beach	http://www.radiohollandusa.com/rhusamap.htm	Boating business		X
Rainbow Fin Company	http://www.rainbowfins.com/	Boating business		X
Rainbow Marine & Auto Painting	http://www.dragboats.com/boatprof/boats/badcpny.htm	Boating business		X
Ralph's Custom Smokehouse	http://www.ralphssmokehouse.com/cgi-sz/webcwrap/szw/ home.html?sid=4R61gZ0VQMD69un-26102548821.60	Boating business		X
Randy's Fishing Trips	http://monterey2000.com/index.cfm?r=401	Boating business		X
Ranger Communications	http://www.rangerusa.com/marine.html	Boating business		X
Rapid Transit Sportfishing	http://www.thefishsniffer.com/rapidtransit/	Boating business		X
Rebello Racing & Service	http://www.510again.com/directory.html	Boating business		X
Rec Dealers.com	http://www.recdealers.com	Rec. vehicle dealers directory	X	
Recarbco	http://www.recarbco.com/index.html	Boating business		X
Recreational Boaters of California	http://www.robc.org	Boating business		X
Red and White Fleet	http://www.redandwhite.com/	Boating business		X
Redding Boat Show	http://redding.net/upcoming.shtml	Boating business		X
Redding Chamber of Commerce	http://www.reddingchamber.com/manufacturers.htm	Redding business directory	X	
Redondo Marine Hardware	http://www.boats.com/sites/rmh	Boating business		X
Redwood Empire Awning & Furniture	http://www.reaco.com/	Boating business		X
Reel Magic Sportfishing	http://www.boattahoe.com/guides.htm	Boating business		X
Reichel Pugh Yacht Design	http://www.reichel-pugh.com/	Boating business		X
Reinell Boats	http://www.reinell.com/welcome.htm	Boating business		X
Rendezvous Charters	http://www.rendezvous-charters.com/	Boating business		X
Rex Marine	http://www.boyesen.com/products/distributors/obuslist.html	Boating business		X
Rice Motorsports	http://www.ricemotorsports.com/	Boating business		X
Richard Heath & Assoc. Yacht Charters	http://www.boattraderonline.com/charterproviders.html	Boating business		X
Riverrunners Personal Watercraft Club	http://riverrunners.netfirms.com/membershipx.html	Boating business		X
Rivers West Outfitters	http://www.riverswestoutfitters.com/CompanyInfo.html	Boating business		X
Robert's Auto & Marine	http://www.qaaa.com/automech/California/Chico.html	Boating business		X
Ronnie's Basics	http://www.ronniesbasics.com/	Boating business		X
Rundquist Propeller tools	http://www.rundquist.com/locate/locator_h.asp?search_ region=California	Rundquist dealers directory	X	
Ryan Boats	http://www.torrnet.com/business/16199.htm	Boating business		X
Sacramento Marine Center, Inc.	http://www.nautamatic.com/DEALERS.HTM	Boating business		X
Saddleback Motorsports	http://www.saddlebackms.com	Boating business		X
Sailboats of Bakersfield	http://www.sit-on-topkayaking.com/Outfitters.html	Boating business		X
Sailers.com	http://www.sailors.com/cs/main.html	Sailing resources directory	X	

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Sailomat USA	http://www.sailomat.com/main.html	Boating business		X
Sal's Inflatable Services	http://bestofalameda.com/cgi-shl/foxweb.exe/listcat@tel/book%5Ecat=BOAT-DLR	Boating business		X
Salt Away	http://www.saltawayproducts.com/ContactUs.htm	Boating business		X
Salt-X	http://www.salt-x.com/contact.htm	Boating business		X
Sam L Morse Company	http://www.samlmorse.com/Index.htm	Boating business		X
San Diego Boating.com	http://www.sandiegoboating.com	Boating related bus., retailers, charters, & launch sites in San Diego	X	
San Diego Divers Supply	http://www.zeagle.com/Dealer_pages/CA.dealers.html	Boating business		X
San Diego Eliminator Boats	http://www.sd-eliminator.com/	Boating business		X
San Diego House of Motorcycles	http://www.houseofmotorcycles.com/	Boating business		X
San Diego Sailing Center	http://www.kayaksforsale.com	Boating business		X
San Diego Waterfront	http://www.sdwaterfront.com/services.shtml	San Diego waterfront res. dir.	X	
San Francisco Sportfishing	http://www.sfsportfishing.com/fleet_page.html	Boating business		X
San Jose Yamaha	http://www.sanjoseyamaha.com	Boating business		X
San Luis Motorsports	http://www.sanluismotorsports.com/about.cfm	Boating business		X
San Ramon Boat Center	http://www.sanramonboats.com/	Boating business		X
Sanger Boats Inc	http://www.sangerboats.com/	Boating business		X
Santa Barbara Sailing Club	http://www.sailsbsc.org	Boating business		X
Santa Barbara Yacht Club	http://www.sbyc.org	Boating business		X
Santa Cruz Guide	www.santacruzguide.com	Santa Cruz Cnty business directory	X	
Santa Cruz Yachts	http://www.santacruzyachts.com/	Boating business		X
Santana 20 Class Association	http://www.s20.org	Boating business		X
Santana 22 Yacht Class Association	http://www2.cruzio.com/~spitzer/S22.htm#fleetinfo	Boating business		X
Sarris Interiors & Custom Canvas	http://www.marinecanvas.com	Boating business		X
Scanmar International	http://www.selfsteer.com/auto-helm.html	Boating business		X
Scuba World Sacramento	http://www.scubaworldsacto.com/	Boating business		X
Scuba-Cal U.S.A.	http://www.ikelite.com/dealers/dlr_usa/ca.html	Boating business		X
Sea Base	http://www.SeaBase.org	Boating business		X
Sea Board Marine	http://boatdiesel.com/dealers/seaboardmarine/	Boating business		X
Sea Magazine	http://www.goboatingamerica.com/contactus.asp	Boating business		X
Sea Ray Boat Club	http://www.srbcnc.org	Boating business		X
Sea Recovery Corporation	http://www.searecovery.com/	Boating business		X
Seaboard Marine Products	http://cumminsmarine.com/index.cfm?SD=Seaboard_Marine	Boating business		X
Seabreeze Nautical Books & Charts	http://www.goodoldboat.com/sample.html	Boating business		X
Seal Beach Sportfishing	http://www.tripadvisor.com/Attraction_Review-g32655-d108202-Reviews-Seal_Beach_Sportfishing-Los_Angeles_California.html	Boating business		X
Seamar Electronics	http://www.sea-dmi.com/dlrusa.htm	Boating business		X
Seaside Marine Drug Company	http://www.seasidemarineintldrug.com/offshore%20kit.htm	Boating business		X
Seda Products, Inc.	http://www.sedakayak.com	Boating business		X
See Water, Inc.	http://www.seewaterinc.com	Boating business		X
Seven Crown Resorts	http://www.sevencrown.com/	Boating business		X
Seven Seas Electronics	http://www.sevenseaselectronics.com	Boating business		X
Shadow Trailers	http://shadowtrailers.com/	Boating business		X
Shaft Lok, Inc.	http://www.shaftlok.com/	Boating business		X
Shasta Inboards	http://shastainboardsboats.com/	Boating business		X
Sheffield's Boat Works	http://www.sheffieldsboatworks.com/index2.ivnu	Boating business		X
Shockwave Custom Boats	http://www.shockwaveboats.com/contact.htm	Boating business		X
Ski Centurion	http://www.skicenturion.com/home.html	Boating business		X
Ski Shop Santa Cruz	http://www.metroactive.com/papers/cruz/09.24.98/guide-wheels-9838.html	Boating business		X
Ski Works	http://www.castaic.org	Boating business		X
Ski World USA	http://www.skiworldusa.com/locations.html	Boating business		X
Skip Jack Boats	http://www.skipjackboats.com/	Boating business		X
Sky Ski	http://www.skyski.com/home.htm	Boating business		X
Slide Anchor	http://www.slideanchor.com/index.html	Boating business		X
Small Boat Racing Assn.	http://www.sbra.org	Boating business		X
Small Craft Advisory/ Sailing Pro Shop.com	http://www.sailingproshop.com	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Smater Yellow Pages	www.smarteryellowpages.com	Yellow pages dir.	X	
Snipe Class Intl. Racing Association	http://www.snipe.org	Boating business		X
Soar Inflatables	http://www.soar1.com/contact.htm	Boating business		X
Sobstad Sailmakers	http://www.sobstad.com	Boating business		X
SoCalSail	http://www.socalsail.com	So Cal boating industry dir.	X	
Solar Electric, Inc.	http://www.solarelectricinc.com/	Boating business		X
Sonic Jet Performance	http://www.sonicjet.com/	Boating business		X
South Bay Yacht Racing Association	http://www.employees.org/~mbrna/sbyra	Boating business		X
South Coast Boat Yard	http://www.spursmarine.com/CALIF.HTM	Boating business		X
Southern California Marine Association	http://www.scma.com	So Cal boating industry dir.	X	
Southern California Sailing Charters	http://www.charteradventures.com	Boating business		X
Southern California Yachting Association	http://www.scya.org	Boating business		X
Southland Communications	http://www.pacpals.org/business.html	Boating business		X
Southport Marine	http://www.southportmarine.net/frames.html	Boating business		X
Southwestern Yacht Sales	http://www.southwesternyachts.com	Boating business		X
Southwind Kayak Center	http://www.southwindkayaks.com	Boating business		X
Spacemaker	http://www.wattsind.com/newsrelease051500.htm	Boating business		X
Spike Africa Sailing Charter	http://www.sandiego.org	Boating business		X
Spinnaker Sailing - San Francisco	http://www.spinnaker-sailing.com/	Boating business		X
Spinnaker Sailing School	http://www.spinnsail.com/	Boating business		X
Spirit Cruises	http://www.spiritmarine.com	Boating business		X
Sporting Edge Ski & Marine	http://www.thesportingedge.com/	Boating business		X
Sports Cottage	http://www.sportscottage.com/	Boating business		X
Sports Ltd.	http://www.sports-ltd.com/ltd/	Boating business		X
Standard Communications Corporation	http://www.standardcomm.com	Boating business		X
Stanford University Sailing Program	http://www.stanford.edu/group/sailing/	Boating business		X
Stan's Skin and SCUBA Diving Shop	http://www.stansdiving.com/	Boating business		X
Stoll Engine Co.	http://www.stollengine.com/	Boating business		X
Sun Coast Calamari, Inc.	http://www.ca-seafood.org/csc_org/producer/suncoast.htm	Boating business		X
Sun Country Marine, Inc.	http://www.suncountrymarine.com/contact.html	Boating business		X
Sunny's Electric Marine	http://www.trollingmotors.net/	Boating business		X
Sunset Marine, Inc.	http://www.sunsetmarine.com	Boating business		X
Sunwest Sports	http://www.sunwestsports.com/	Boating business		X
Super Home Center	http://www.superhomecenter.com	Business directory	X	
Super Pages.Com	http://yp101.spuerpages.com	Yellow pages dir.	X	
Swigards True Value Hardware	http://www.atplay.com/tahoe/tcityshop.html	Boating business		X
Tahoe Directory	www.tahoedirectory.com	Lake Tahoe area business directory	X	
Tahoe Trout Farm	http://www.laketahoelodging.com/kids/ Fun_things_for_kids_to_do.html	Boating business		X
Tahoe Viking Sport Fishing	http://www.tahoe-estates.com/fishing.html	Boating business		X
Teague Custom Marine	http://www.teaguecustommarine.com/share/cgi-bin/site.cgi?site_id=teaguecustommarine&page_id=home	Boating business		X
Temecula Motorsports	http://www.temeculamotorsports.com/location-hours.asp	Boating business		X
Terheggen - Malone, Inc.	http://www.roughnotes.com/rnmag/february98/02p42.htm	Boating business		X
The Adventure Pages	http://www.theadventurepages.com/?action=browse&categoryid=1225	List of adventure sport retailers	X	
The Anchor Shack	http://www.anchorshack.com/	Boating business		X
The Bellingham Marine Group	http://www.alameda-point.com/media/responses/BMI-Profile_short_version.pdf	Boating business		X
The City ofs.com	http://www.thecityofsandiego.org/boats.html	Directory of businesses by city	X	
The Crow's Nest Yacht & Ship Brokerage	http://www.crowsnestyacht.com/charter_frame.htm	Boating business		X
The Dutra Group	http://www.dutragroup.com	Boating business		X
The Log Newspapers	http://www.thelognewspaper.com/	Boating business		X
The Longfin Tackle Store/ Tony Reyes Fishing Tours	http://www.sanfelipe.com.mx/business/tonyreyes/default.html	Boating business		X
The Oilguard Company	http://www.oilguard.com	Boating business		X
The Rod Rack	http://www.rodrack.net/wherearewe.html	Boating business		X
The Ship Shape Ship Shop	http://shipshapeshipshop.com/	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Thermo Batteries	http://www.thermobatteries.com/dealers.htm	Thermo Batteries dealers directory	X	
Thy Rod & Staff	http://www.cyberfly.com/guiding.htm	Boating business		X
Tidewater Marine Western, Inc.	http://www.tidewater.com	Boating business		X
Timber Cove Vacation Rentals	http://www.vacationrentalsonline.com/vr/ca/tc/catc01/catc01.htm	Boating business		X
Tinker Marine	http://www.storesearch.com/resultFrameset.asp?C=158870&R=32211&D=4918&A=9&N=3019&S=831494070	Boating business		X
T-N-T Motorsports	http://www.tntmotorsports.com/	Boating business		X
Tortuga Sport Fishing	http://www.92626.com/tortugassportfishing/	Boating business		X
Tradewind Inflatables	http://www.twimarine.com/	Boating business		X
Tradewinds Sailing Center	http://www.sfsailing.com/tradewinds/	Boating business		X
Trailer Boats Magazine	http://www.trailerboats.com/	Boating business		X
Trail-Rite Boat Trailers	http://www.trailrite.com/	Boating business		X
Trans Pacific Distributors	http://www.tranpac.com/	Boating business		X
Tri Valley Marine	http://www.boatdlr.com/index.html	Boating business		X
Tri-County Boating Page	http://www.yachtline.com	Ventura, Santa Barbara, & San Luis Obispo Cnty boating directory	X	
Trinidad Bay Charters	http://www.humboldt1.com/~annette/	Boating business		X
Trowbridge Recreation	http://www.bikeroute.com/Trowbridge.htm	Boating business		X
U.C.S.C. Aquatic Center	http://www.sailorschoice.com/schools/sailingschoolsa-i.htm	Boating business		X
U.K. Sailmakers, N. California	http://www.uksailmakers.com	Boating business		X
U.S. Department of Labor, Occupational Safety, and Health Admin.	http://www.osha.gov/oshstats/sicser.html	SIC code directory	X	
U.S. Int. Fireball Association	http://www.fireball-international.com	Boating business		X
Ullman Sails Loft	http://www.ullmansails.com	Boating business		X
Ultimate Watersports by Cope & Mcphetres	http://www.getfairfieldnews.com/yp/busview.cfm?busoid=4714	Boating business		X
Ultra Custom Boats-San Diego	http://www.ultraboats.com	Boating business		X
USA Exporters	http://www.usaexporters.net/companyprofile.asp?catID=6163	USA exporters list	X	
USA Fishing	http://usafishing.com	USA fishing dir.	X	
USA Motorcycles	http://www.usamotorcycle.com	USA motorcycle (PWC) dealers list	X	
USA Watercraft	http://www.usawatercraft.com	USA watercraft dealers list	X	
Vagagundos Del Mar Boat & Travel Club	http://www.vagabundos.com/contact.htm	Boating business		X
Valco Boats	http://www.valcoboats.com/	Boating business		X
Vallejo News	http://vallejonews.com/yp/busview.cfm?busoid=91	Vallejo yellow pgs	X	
Valley Boats, Inc.	http://www.valleyboats.com/welcome.htm	Boating business		X
Valley Cycle & Marine	http://www.vcm.net	Boating business		X
Valley Detroit Diesel Allison	http://www.valleydda.com	Boating business		X
Venture Quest Kayaking	http://www.kayaksantacruz.com/	Boating business		X
Venture Yacht Club of San Diego	http://www.vycsd.com	Boating business		X
Vessel Assist Association of America	http://www.vesselassist.com/contact_us.asp	Boating business		X
Village Marine Tec	http://www.villagemarine.com	Boating business		X
Virg's Landing	http://www.virgs.com	Boating business		X
Wakesports Unlimited	http://www.noflexinc.com/california.htm	Boating business		X
Walts Boat Works	http://www.santacruzguide.com/page.cgi/pages/970255/97025565.html	Boating business		X
Warlock Powerboats	http://www.warlock-powerboats.com/	Boating business		X
Water Ski World	http://www.waterskiworld.com/Store_Locations/store_locations.html	Boating business		X
Water Sport Marine	http://www.calsign.com/marine.htm	Boating business		X
Watercraft Magic	http://www.watercraftmagic.com/	Boating business		X
Watersports Warehouse	http://www.adventuresports.com/river/nors/team/catalog.htm#watersports	Boating business		X
Wave Walker Charters	http://www.wavewalker.com	Boating business		X
West Coast Canvas	http://www.westcoastcanvas.com/Shocked.html	Boating business		X
West Coast Marine Electric	http://energy.sourceguides.com/businesses/byP/invert/byN/byNameW.shtml	Boating business		X
West Coast Motorsports	http://www.westcoastms.com/home.html	Boating business		X
West Marine	http://www.westmarine.com	Boating business		X
Western California Yacht Sales	http://www.wescal.com/	Boating business		X
Western Charter Co	http://www.totalescape.com/active/leisure/sitesee.html	Boating business		X

Table 1 *(cont.)*

Name of Company	Web address	Description	Directory	Business
Western Marine Marketing	http://www.seawardproducts.com/salesrep.htm	Boating business		X
Western Outdoors Publications	http://www.bajadestinations.com/won/wonsubs.htm	Boating business		X
Westmark Sports, Inc.	http://www.westmarksports.com/	Boating business		X
Whittier Fun Center	http://www.wfuncenter.com/Default.asp?sid= 342888194X2K1K02J2I42I33JPMQ520R0	Boating business		X
Wholesale Marine	http://www.wholesale-marine.com	Boating business		X
Wilkes Marine	http://www.wilkesmarine.com/	Boating business		X
Wilson's Motorcycles	http://www.wilsonsmc.com/	Boating business		X
Windsport	http://www.windsport.net	Boating business		X
Windsurfing Pacifica	http://www.caoutdoors.com/Clubs_Water_Sports.htm	Boating business		X
World Wide Scuba Diving Directory	http://divedirectory.com	Dive shops and centers directory	X	
Yacht Racing Union of So Cal	http://www.yrusc.org	Boating business		X
Yacht World.com	http://www.yachtworld.com	Boating related businesses list	X	
Yamaha Ducati of Chico	http://www.yamahachico.com	Boating business		X
YMCA Camp Surf	http://camp.ymca.org/rental_surf.html	Boating business		X
YPD.com	www.ypd.com	Yellow pages dir.	X	

Chapter 2

Recreational Values of Boating in California

2. Recreational Values of Boating in California

A. Introduction

The objective of this chapter was to quantify the non-market resource values associated with boating (as defined for purposes of this project) in California. Many boaters enjoy relatively convenient, free or low-cost access to public waterways; thus, it is difficult to place a value on boating access without knowing more about boaters and their habits. As discussed below, economists have developed a number of methods to measure the value of non-market goods, such as access to public waterways, and the Boater Survey of this project has provided data that can be used in estimating recreational values of boating in California.

This recreational boating value information can be useful to the California Department of Boating and Waterways, and other public agencies, in evaluating the overall value of recreation provided by publicly accessible waterways and boating facilities within California. This information also can provide a measure of the unit-value of boating access (e.g., value of each daily boat launch) that can be used in measuring benefits of different waterways or boating facility improvements that result from changes in recreational boating capacity.

B. Economic Concepts: Non-market Goods, Supply, Demand, and Consumer Surplus

In order to determine the recreational value of boating in California, it was useful to define concepts of non-market goods, supply, demand, consumer surplus, and other principles of economic theory. Attempting to assign a monetary value to recreational boating presented several challenges.

One significant obstacle is that different types of value associated with recreation (e.g., health benefits of physical exercise, enjoyment of scenic beauty, rewards from perfecting a skill, etc.) are measured using different methodologies and are expressed in different units. Employing dollars as a standard unit of recreational value requires some subjective judgment and is frequently difficult to defend. In addition, at least one school of thought proposes that recreation is, by definition, a non-market good with intangible values, and therefore it is not justifiable to attempt to attach a monetary value to it.

On the other hand, economists frequently arrive at a meaningful estimate for the value of many non-market resources through the concept of consumer surplus. The conceptual basis for providing an understanding of consumer surplus is the simple supply and demand models shown in Exhibits 2.1 and 2.2. The supply curve indicates the quantity of a good or service supplied at varying prices, and it shows the marginal cost of producing more of the good or service. Generally, the higher the price, the more the good or service will be supplied by the market. Because producers wish to sell more of a good or service at higher prices, the supply curve slopes upward. (See **Exhibit 2.1**)

The demand curve indicates the maximum amount that consumers are willing to pay for incremental increases in the quantity of a good or service. As the price of a good or service increases, the level of consumer demand decreases because consumers only purchase a good or service when the value they receive is greater than the price they pay. This is known as the law of demand and it is reflected in a downward sloping demand curve. (See **Exhibit 2.2**)

If producers receive a higher price for a good or service than the minimum price for which they would have been willing to sell it, then they receive a benefit from the sale, i.e., the producer surplus (see shaded area in Exhibit 2.1). Likewise, consumer surplus is the difference between the maximum price consumers would be willing to pay for a good or service, and what consumers actually spend (see shaded area in Exhibit 2.2).

For a non-market good, such as boating recreation, the concept of a demand curve exists as if it were a market good. Since the demand curve for a non-market good cannot be represented by market transactions, it must be derived from stated or revealed preferences. Economists have developed two main techniques to estimate demand for recreation: the travel cost method (a revealed preference approach) and the contingent valuation method (a stated preference approach).

Exhibit 2.1
Supply Curve

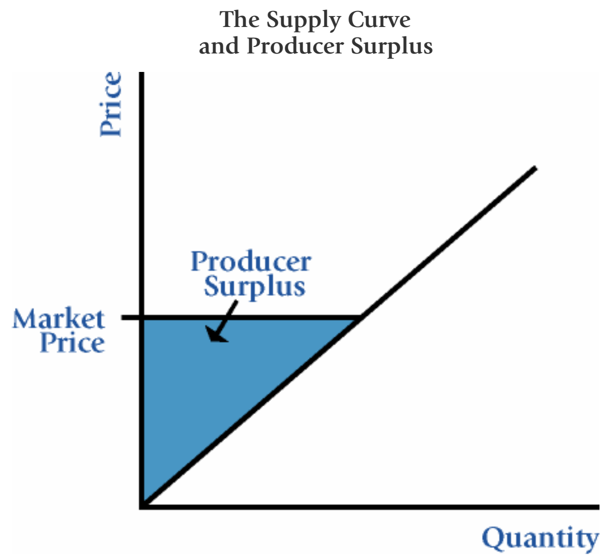
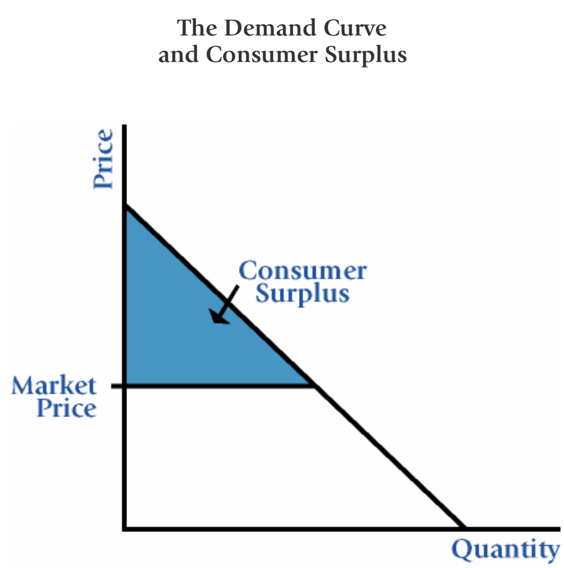


Exhibit 2.2
Demand Curve



C. Travel Cost Method (Revealed Preference Approach)

The underlying principle of the travel cost (TC) method is that time and travel costs that consumers incur to enjoy a recreational outing can be used as a proxy to estimate the "price" of recreation. These costs reflect only the recreational value of the outing. Other costs such as equipment expenses, user fees, etc., are specifically excluded from the TC method. The TC method assumes that the consumer's willingness to pay time and travel expenses for a recreational outing can be estimated based on the number of trips that they make at different travel costs. This is comparable to estimating consumer demand for market goods based on the quantity demanded by consumers at different prices.

Application of the travel cost method requires administering a detailed survey to visitors, and conducting a statistical analysis of the survey results. Such a survey asks a variety of questions about each visitor's travel experience including the distance traveled to the site, the length of the trip, amount of travel expenses, the number of trips to the site per year, and income data (to determine the opportunity cost of travel time). A regression analysis of this survey data can be used to estimate the relationship between the number of visits and travel costs, and provides a demand function for the typical visitor.

The California Boats and Boaters Survey[1] included a question that asked respondents "If [waterway you use your boat on most often] was no longer accessible to you, how many miles would you be willing to travel to access another waterway?" *(Question 62.)* The survey results indicated that the mean distance boaters reported they would be willing to travel to boat at another waterway was approximately 81 miles, after excluding one outlier response that indicated a willingness to travel 6,200 miles.[2] A number of other survey responses that were included in the mean calculated above indicated a willingness to travel several hundred miles up to 3,000 miles in order to boat on an alternate waterway if their primary waterway were no longer available. The median reported by respondents was approximately 40 miles.

These survey responses indicated that boaters place a considerable value on boating access; however, the nature of the survey question is such that it was difficult to discern how often respondents would be willing to travel the stated distances, exactly what their travel costs would be, and how such costs might relate to the value that they

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[1] Between April and August 2001, a telephone survey of 4,137 boat owners in California was conducted by the Public Research Institute, at San Francisco State University, on behalf of the California Department of Boating and Waterways. The survey's sampling plan was designed to include responses from 10 regions (North Coast, SF Bay Area, Central Coast, South Coast, San Diego, Northern Interior, Sacramento Basin, Central Valley, Eastern Sierra, Southern Interior). The sample was also designed to survey owners of boats less than 26 feet, and of boats 26 feet or more within each of the 10 regions with the goal of completing an average of 400 interviews within each region. A detailed description of the survey methodology is found in *California Boating Facilities Needs Assessment, Volume III, Appendices*.

[2] The 95% confidence interval for the mean for this variable was 74.2 to 87.0 miles.

place on boating considering access to numerous boating waterways that may be located closer to them than the distance that they stated for their willingness to travel.

1. Boating User Day Valuesfrom Travel Cost

An alternative method of estimating boaters' travel cost value for recreational boating is to estimate travel costs using responses from the California Boats and Boaters Survey, Question 113, which asked how much boaters spent per day on auto or truck fuel. Based only on the responses of boaters with boats under 26 feet in length and who use launching facilities, the mean amount spent on gas was $26.36 per day. According to AAA, the fuel costs of a typical tow vehicle, such as an SUV or light truck, are generally 50 percent of the total operating costs (which also include maintenance and tires), so total costs are estimated at twice the fuel cost, or about $52.72 per day.[3] For each record, dividing the estimated travel cost per day by the number of people typically aboard the boat on a typical boating trip yielded an estimate of the average travel cost per person, per day of boating. This worked out to $17.89 per Boating User Day (the mean value of a day of boating for one person), with a 95 percent confidence interval of $16.97 to $18.81, as shown in Table 2.1. This should be regarded as a very conservative estimate since it omits trailer maintenance and lodging, as well as any consumer surplus accruing to those who live where there are good waterways nearby. Also, it does not attempt to include "value" for the time spent in travel, nor for vehicle ownership costs, such as the vehicle purchase price, insurance, licenses, and financing charges.

[3] http://www.ouraaa.com/news/library/drivingcost/driving2.html (October 4, 2002).

D. Contingent Valuation Method (Stated Preference Approach)

The contingent valuation (CV) method involves administering a survey interview and directly asking visitors how much they would be willing to pay for a given recreational outing. This method is called "contingent" because it asks respondents to state their willingness to pay for recreation in a hypothetical market scenario. Data obtained using the CV method rely on individuals' responses (i.e., stated preferences), not on observable market behavior (or revealed preferences, as would be the case when a a TC method is used that surveys boaters regarding the travel costs of actual boating trips that they have taken).

1. Boating User Day Value and Boating Trip Day Value

The California Boats and Boaters Survey included a contingent valuation question that asked, "If all access to [the waterway where you use this boat most often] was subject to a daily boating fee, how much would you be willing to pay per person, per day, to use this waterway?" *(Question 61.)*[4] An analysis of the survey results

[4] Question 61 was prefaced with the following caveat from the person administering the survey: "Now I am going to ask you to consider three hypothetical questions about access to [the waterway where you use this boat most often]. Your answers will help estimate the benefits of proposed boating access projects. We are using [the waterway where you use this boat most often] as an example only because we know you are familiar with it." The purpose of the caveat was to assure respondents that the question about the daily boating fee was intended only as a theoretical scenario and that there was no plan or intention to charge a fee for access to the waterway.

shows that Question 61 received 1,713 valid responses. Survey data from Question 61 show that the mean Boating User Day Value using the CV method was $4.14.[5] This value, as well as the upper and lower limits of the 95 percent confidence interval from this variable is shown in the first column of the first section of **Table 2.1**. Table 1, to the Appendix of this Chapter 2, contains a summary of the mean and median Boating User Day Values, by Region.

For each respondent, the answer from Question 61 can be combined with the answer to Question 103 from the same survey, which asked how many people were aboard the boat on a typical boating trip, in order to estimate the respondents' typical value per day of boating (Boating Trip Day Value). Results from Question 103 show that the mean number of persons per boat trip was 3.7.[6]

We generated a new variable that was the product of each respondent's answer to Question 61, multiplied by his or her answer to Question 103, or the estimated value per typical day of boating. Analysis of this new variable indicates that the mean computed Boating Trip Day Value was $15.76 per day, with a range from $0 to $600 per day.[7] The mean and the upper and lower limits of the 95 percent confidence interval for this variable is shown in the first column of the second section of Table 2.1. The median for this variable is $5.00 per day. The big discrepancy between the mean and the median can be accounted for largely by the fact that a large proportion (38 percent) of respondents who answered this question indicated that they would be willing to pay $0.00 per person per day in order to be able to gain access to the waterway they use most frequently, thus bringing the median closer to the lower end of the range of values. Table 2, to the Appendix of this Chapter 2, contains a summary of the mean and median Boating Trip Day Values, by Region.

We explored variations in the trip day value from the California Boats and Boaters Survey considering a number of different factors, as discussed below. The potential usefulness of variable trip day values is in customizing benefit inputs when evaluating a project with specific characteristics. For example, an evaluator may decide that it is more appropriate to use a trip day value that is derived from the responses of boat owners from the specific region in which a boating facility improvement is imposed when estimating the benefits of that improvement. When substituting more refined trip day values for the more general statewide values discussed above, the evaluator must first confirm that the more refined regional trip day value is based on an reliable sample size, as sample sizes will be smaller, and thus, less reliable than sample sizes from which the statewide values were extracted.

[5] The 95% confidence interval for the mean for this variable was $3.78 to $4.50.

[6] The 95% confidence interval for the mean for this variable was 3.59 to 3.81 persons per trip.

[7] The 95% confidence interval for the mean for this variable was $14.07 to $17.46.

Table 2.1
Estimated Values of Recreational Boating in California, 2000

Estimated Mean Value of Boating, Per Person, Per Day						
	All Boats Contingent Value Method [a]	All Boats Lump Sum Method [b]	Boats Under 26' in Length Travel Cost Method [c]	Benefit Transfer Method (Motorized)	Benefit Transfer Method (Non-Motorized)	
Lower Bound, 95% CI	$3.78	$21.29	$16.97	n.a.	n.a.	
Mean	**$4.14**	**$29.36**	**$17.89**	$24.53	$38.34	
Upper Bound, 95% CI	$4.50	$37.44	$18.81	n.a.	n.a.	
Estimated Mean Value of a Day of Boating						
	Contingent Value Method [a]	Lump Sum Method [b]	Boats Under 26' in Length Travel Cost Method [c]	Benefit Transfer Method (Motorized) [c]	Benefit Transfer Method (Non-Motorized) [d]	
Lower Bound, 95% CI	$14.07	$65.77	$50.59	n.a.	n.a.	
Mean	**$15.76**	**$100.71**	**$52.72**	$91.99	$114.25	
Upper Bound, 95% CI	$17.46	$135.64	$54.84	n.a.	n.a.	
Estimated Annual Value of Boating, Per Boat						
	Contingent Value Method [a]	Lump Sum Method [b]	Boats Under 26' in Length Travel Cost Method [c]	Benefit Transfer Method (Motorized) [e, f]	Benefit Transfer Method (Non-Motorized) [g]	
Lower Bound, 95% CI	$527	$1,916	$2,491	n.a.	n.a.	
Mean	**$671**	**$2,761**	**$3,090**	$4,160	$3,780	
Upper Bound, 95% CI	$814	$3,606	$3,689	n.a.	n.a.	
Estimated Annual Value of Boating, Total						
	Contingent Value Method	Lump Sum Method	Boats Under 26' in Length Travel Cost Method [k]	Benefit Transfer Method (Motorized)	Benefit Transfer Method (Non-Motorized)	Benefit Transfer Method (Total)
Registered/Documented Boats [h]						
Lower Bound, 95% CI	$486,506,901	$1,768,780,308	n.a.	n.a.	n.a.	
Mean	$619,442,373	$2,548,853,043	n.a.	$3,622,265,920	$198,170,280	$3,820,436,200
Upper Bound, 95% CI	$753,896,682	$3,339,743,778	n.a.	n.a.	n.a.	
Unregistered Boats [i]						
Lower Bound, 95% CI	$51,119,000	$185,852,000	n.a.	n.a.	n.a.	
Mean	$65,087,000	$267,817,000	n.a.	$0	$366,660,000	$366,660,000
Upper Bound, 95% CI	$78,958,000	$349,782,000	n.a.	n.a.	n.a.	
Total						
Lower Bound, 95% CI	$537,625,901	$1,954,632,308	n.a.	n.a.	n.a.	
Mean	**$684,529,373**	**$2,816,670,043**	n.a.	$3,622,265,920	$564,830,280	$4,187,096,200
Upper Bound, 95% CI	$832,854,682	$3,689,525,778	n.a.	n.a.	n.a.	

Notes:
a Data are derived from California Boats and Boaters Survey database. See discussion in text.
b Data are derived from California Boats and Boaters Survey database. See discussion in text.
c Data are derived from California Boats and Boaters Survey database. See discussion in text.
d Uses forecasted average value of activity from Rosenberger and Loomis, Benefit Transfer Outdoor Recreation Use Values, 2001, multiplied by mean number of persons per boat (3.75) from Survey of Boats and Boaters for motorized boats.
e Uses forecasted average value of activity from Rosenberger and Loomis, Benefit Transfer Outdoor Recreation Use Values, 2001, multiplied by mean number of persons per boat (2.98) from Survey of Boats and Boaters for non-motorized boats.
f Figure is derived from responses to Survey of Boats and Boaters and is the product of average value per person per day.
g From California Boats and Boaters Survey, mean days of boat use per year for motorized boats was 45.23.
h From California Boats and Boaters Survey, mean days of boat use per year for non-motorized boats was 33.11.
I 2001 Boating Facilities Needs Assessment: Volume I. See discussion in text.
j 2001 Boating Facilitates Needs Assessment: Volume III. See discussion in text.
k Total annual value for TC method not estimated because TC method excludes boats 26 feet and larger and boats that do not use launching facilities.

Sources: California Department of Boating and Waterways, California Boats and Boaters Survey; California Department of Boating and Waterways, 2001 Boating Facilities Needs Assessment; Rosenberger and Loomis, Benefit Transfer Outdoor Recreation Use Values, 2001; Bay Area Economics, 2002.

2. Boating Trip Day Value by Region

We examined the trip value variable by respondents' home regions, as defined in the California Boating Facilities Needs Assessment. Mean trip value ranged from a low of $3.93 per day in the Northern Interior region, to a high of $22.35 in the Eastern Sierra region. At the regional level, there did not appear to be a clear geographic pattern to the median trip value results. For example, there were no clear tendencies in value between Northern California versus Southern California. Both the Northern and Southern parts of the state include regions with values that were above, and below, the Statewide median. The same was true of the coastal areas versus inland areas. Finally, there did not appear to be a clear distinction between the more urban regions and those regions where rural development is more prevalent.

3. Boating Trip Day Value by Owner Income Group

Upon reviewing the estimated trip values by owner income group, a fairly distinct pattern emerged, with the lowest income group (household income under $25,000 per year) yielding a distinctly lower mean trip value than the other income groups. In addition, the mean trip value increased progressively from the $25,001 to $50,000 income group, through the group of households with incomes above $200,000 per year.

4. Boating Trip Day Value by Owner Age Group

Although age is typically correlated with income (higher incomes are usually associated with older age groups), in the case of trip value data the relationship was the inverse. It appears that the age group that placed the highest value on a boating trip was those boaters under the age of 30. The mean trip value estimated for this age group was $34.14 per day, or more than twice the mean for the overall survey sample. The mean for the 30 to 39 age group dropped down to $24.26, and the mean ranged between $12.52 and $15.11 for the age groups that include ages 40 and above.

5. Boating Trip Day Value by Boat Size

A breakout of trip values by boat size proved inconclusive. The vast majority of survey respondents who provided answers to Questions 61 and 103 owned boats less than 26 feet in length. The mean trip value for those respondents was $15.78[8] per day, very similar to the overall mean. Only a small number of people who owned boats 26 feet or larger answered these questions, but their responses yielded a mean trip value of $14.24[9] per day.

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[8] The 95% confidence interval for this value is $14.07 to $17.50 per day.

[9] The 95% confidence interval for this value is $4.79 to $23.68 per day. The number of weighted cases for this variable was only 23.

E. Contingent Value of Compensation for Loss of Access to Primary Waterway

Question 63 of the California Boats and Boaters Survey provided information that could also be considered in estimating the value of boating access for California boaters. Question 63 asked respondents, "If [waterway most often used for boating] was no longer accessible to you, what lump sum payment would compensate you individually for this loss of access?" This differs from the question regarding the estimated value of boating per person per day (Question 61) in that it yields a one time value that assumes that access to boating at that waterway is cut off permanently. Question 63 was structured such that it only asked respondents what compensation would be needed for them personally, and did not ask respondents to estimate the compensation needed for others who boat with them (i.e., family members, friends) if their primary boating waterway was no longer accessible. In addition, it only asked respondents about the compensation necessary if they lost access to their primary waterway. In other words, the responses to this question do not necessarily represent the compensation that would be necessary if California boaters lost all access to waterways within the state.

1. Lump Sum Compensation for Loss of Access

Responses to Question 63 yielded a mean compensation value of $48,013,[10] with a median of $132.13. Ninety-seven percent of the respondents to this survey question indicated that they would require compensation of no more than $25,000 if they lost access to their primary boating waterway.

We examined a cross-tabulation of compensation values by region and found that the regional means ranged from a low of $17,353 in the Eastern Sierra region, to a high of $129,911 in the San Diego region. Interestingly, there did not seem to be a correlation between regional daily boating trip valuations and regional compensation values for loss of access to respondents' primary boating waterway. For example, the North Coast and San Diego regions had among the lowest mean daily boating trip values among regions, but they had the two highest compensation values for loss to respondents' primary waterways. At the other end of the spectrum, the Eastern Sierra and Sacramento Basin regions had among the highest mean daily trip values, but among the lowest mean compensation values for loss of access to the respondents' primary boating waterways. Table 3, to the Appendix of this Chapter 2, contains a summary of the mean and median Total Compensation Value for Loss of Access to Primary Waterway, by Region.

[10] The 95% confidence interval for the mean is $33,319 to $62,707.

2. Boating Trip Day Value Derived from Lump Sum Compensation

As a complement to the values reported for Question 61 in the survey, we estimated a user day value for boating based on the lump sum compensation that respondents stated in response to Question 63. For each response to Question 63, we created a new variable to represent annual compensation values for loss of access. We created this variable by multiplying the lump sum compensation figure by an annual interest rate that would provide a reasonable estimate of the annual income that a boater would receive if their lump sum compensation was invested and their annual compensation was the interest earnings. We used an interest income assumption of 5.75 percent per year, which approximates the long-term U.S government treasury securities yield.[11] For each respondent, we then divided this figure by the respondent's number of boat trips per year (Question 124) multiplied by length of their typical boating trip (Question 102). Using this methodology, we estimated a mean value per day of boating of $100.71. The 95 percent confidence interval for this variable was $65.77 to $135.64, and the median value was $0.29. Table 4, to the Appendix of this Chapter 2, contains a summary of the mean and median Boating Day Values, by Region, derived using this methodology.

3. Boating User Day Value Derived from Lump Sum Compensation

We calculated a second variable from the lump sum compensation response by dividing the boating day value described in the preceding sections by the number of people aboard on a typical trip (Question 103). The result of this was a mean value of $29.36 per person per day of boating, with a 95 percent confidence interval of $21.29 to $37.44, and a median of $0.11. Table 5, to the Appendix of this Chapter 2, contains a summary of the mean and median User Day Values, by Region, derived using this methodology.

4. Lump Sum Compensation by Waterway

We also reviewed a cross-tabulation of boaters' primary waterway by compensation value range. We did not note any significant patterns among waterways; however, in analyses concerned with differentiating the value of boater access for different waterways, the Department of Boating and Waterways or other interested parties may find this information useful. For example, for the purpose of prioritizing among funding requests for boating facility improvements at different waterways, one variable that could be used to differentiate among the requests was the value placed by boaters on access to the different waterways.

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[11] U.S. Department of the Treasury, daily long term average yield for fixed coupon securities with 25 years or more remaining to maturity, May 2002.

Relatively few waterways (25 out of almost 200) had disproportionately large numbers of boaters (more than three percent of respondents[12]) indicating that they would require more than $25,000 in compensation if the waterway was their primary boating location and access was no longer available. Those waterways are shown in **Table 2.2**, below:

Table 2.2

	Waterway	Percent Requiring More than $25,000 in Compensation
1.	Big Bear Lake	18%
2.	Bodega Bay	10%
3.	Canyon Lake	100%
4.	Clear Lake	9%
5.	Folsom Lake	4%
6.	Humboldt Bay	17%
7.	Hume Lake	100%
8.	Huntington Lake	23%
9.	Kings River	40%
10.	Lake Almanor	25%
11.	Lake Berryessa	11%
12.	Lake Elsinore	25%
13.	Lake Hemet	100%
14.	Lake Oroville	10%
15.	Lake Perris	4%
16.	Lake Pillsbury	34%
17.	New Melones Reservoir	13%
18.	Oceanside Harbor	10%
19.	Pacific Ocean	9%
20.	Sac-San Joaquin Delta	8%
21.	San Diego Bay	4%
22.	San Francisco Bay	9%
23.	Santa Barbara Channel	100%
24.	Tomales Bay	7%
25.	Trinidad Harbor	50%

F. Benefit Transfer Model

To provide a crosscheck on our survey results and the value measures derived from these survey results, we researched other methods to calculate the recreational value of boating in California. Like the State of California Department of Boating and Waterways, the U.S. Forest Service has an interest in estimating the value of outdoor recreation activities for areas under its jurisdiction. In 2001, the U.S. Forest Service published its report *Benefit Transfer of Outdoor Recreation Use Values* by Randall S. Rosenberger, Ph.D., and John B. Loomis, Ph.D. In this study, Rosenberger and Loomis estimated the average value per activity day for motor boating, sailing, and other recreational activities (canoeing, kayaking, rafting, and jet skiing) in the Pacific coast area, including California. This study was prepared for the U.S. Forest Service to provide recreation value data in cases where primary research is not justified because of budget constraints, limited time for research, or where resource impacts are expected to be insignificant.

Utilizing survey results from 163 studies, conducted from 1967 to 1998, that covered 21 recreation activities and provided 760 benefit measures, Rosenberger and Loomis developed an outdoor recreation meta analysis benefit transfer function. Benefit transfer refers to the use and adaptation of existing economic data derived from specific sites to other sites with similar conditions. Meta analysis utilizes information from a large number of studies and provides reliable measures of average values that are sensitive to underlying distributions of the data. The meta analysis benefit transfer model developed by Rosenberger and Loomis was tested for

[12] Note that for individual waterways, the sample size is relatively small for statistical purposes.

convergent validity and it performed well in providing accurate average values for each activity in all regions where data existed. In addition, Rosenberger and Loomis developed regional models, based on aggregated regional data, to forecast regional average values.

Data from the Rosenberger and Loomis model show that the average value in the Pacific Region (including California) per person, per activity day was $24.53 for motor boats, and $38.34 for non-motorized boats. These estimates were based on studies in which the range of values per person, per activity day ranged from $4.40 to $169.68 per person for motorized boating, and from $15.04 to $263.68 for non-motorized boating.

Multiplying the Rosenberger and Loomis' projected mean Pacific Region user day values by the average number of people aboard each boat type for a typical boating trip (3.75 for motorized boats and 2.98 for non-motorized boats), from our Survey of Boats and Boaters, yielded estimates of the mean value of a day of boating. For motorized boats, the estimated value of a day of boating was $91.99, and for non-motorized boats the estimated value was $114.25. These values straddle the boating trip day values derived from our Boats and Boaters Survey Question 63 (Lump Sum Compensation Method, $100.71).

G. Total Annual Value of Recreational Boating in California

In addition to providing an estimate of the value of a day of boating for California boaters, survey results and data from the Rosenberger and Loomis study also assisted in developing an estimate of the overall annual recreational value of boating to California boaters. Question 102 in the California Boats and Boaters Survey asked respondents the number of days in their typical boating trip and Question 124 asked respondents how many times they took boating trips in 2000. We multiplied these variables for each respondent in order to estimate the total number of days each spent boating per year. Then, for each respondent, we multiplied the new variable for total number of days spent boating each year by the different values previously mentioned for the value per day of boating, derived from the Contingent Valuation, Lump Sum Compensation, Travel Cost, and Benefit Transfer Methods.

For each respondent, this yielded an estimate of the total value of his or her annual boating activity, with the results shown in the third section of Table 2.1. For the contingent valuation and lump sum compensation methods, the figures shown in the third section of the table reflect the sample mean after calculating the annual use value for each record in the Survey of Boats and Boaters database. For the benefit transfer method, the figures in Table 2.1 reflect the mean values projected by Rosenberger and Loomis for motorized and non-motorized boats multiplied by the mean number of user days (i.e., number of trips per year x typical length of trip x people per trip) calculated from the responses to the Survey of Boats and Boaters for motorized and non-motorized boats, respectively.

Finally, multiplying estimates of the annual per boat value of boating from the third section of Table 2.1 by the estimated number of registered and un-registered boats, as indicated in the California Boating Facilities Needs Assessment Reports, it was possible to estimate the total annual value of boating for registered California boats.[13] These figures are shown in the fourth section of Table 2.1. As shown, the estimated mean value of recreational boating for California boaters ranged from approximately $685 million for the Contingent Value method to approximately $2.817 billion for the Lump Sum Compensation method, to approximately $4.187 billion using user-day values from Rosenberger and Loomis' Benefit Transfer Model. We did not use the values from the Travel Cost method to estimate total statewide recreational boating value because the TC values were derived from a subset of California boaters.

H. Conclusions on the Recreational Values of Boating in California

Using contingent valuation responses from Question 61 of the California Boats and Boaters Survey, it was possible to estimate the statewide mean Boating User Day Value at $4.14 per person, per day. Using additional data from the survey responses regarding the number of people typically aboard a boat, we were able to estimate the statewide mean Boating Trip Day Value for California boaters at $15.76. In addition, the survey yielded Boating User Day Values and Boating Trip Day Values that could be segregated by region and may potentially be used in conducting region-specific cost/benefit analyses.

Responses from Question 63 of the California Boats and Boaters Survey regarding lump sum compensation for loss of access to boaters' primary boating waterway, combined with other survey responses and assumptions used to convert lump sum compensation into an annual income equivalent, yielded a second set of Boating User Day Values and Boating Trip Day Values which were considerably higher than those based on Question 61. The mean value for Boating User Day Values was $29.36 and the mean value for Boating Trip Day Value was $100.71.

Recent research published by Rosenberger and Loomis provided a third set of Boating User Day Values ($24.53 for motorized boats and $38.34 for non-motorized boats), which, when combined with information regarding boat use from the Survey of Boats and Boaters provided a means of calculating a third set of Boating Trip Day Values ($91.99 and $114.25 for motorized and non-motorized boats, respectively) that are similar to the Boating Trip Day Values estimated using our Lump Sum Compensation Method.

It is possible that survey respondents could be at least somewhat biased towards providing a relatively low dollar figure in response to Question 61 (Contingent Valuation), because of a reluctance to volunteer willingness to pay a high price for waterway access and perhaps a natural desire of respondents to influence public agencies to keep access fees low. Conversely, it is possible that survey respondents could be at least somewhat biased towards providing a relatively high dollar figure in response to

[13] An estimated 923,163 total registered boats and 97,000 unregistered boats; for Benefit Transfer Analysis method, 870,737 registered motorized boats; 52,426 registered non-motorized boats, and assumes all 97,000 unregistered boats are non-motorized: 2001 California Boating Facilities Needs Assessment, Volume III.

Question 63 (Lump Sum Compensation), because the issue is compensation to the respondent, rather than expense to the respondent. It does, however, provide a way of including the value of the consumer surplus resulting from living where there are good waterways nearby.

The travel cost method demonstrates that the same respondents are in fact quite willing to spend about three times their contingent use valuation, or a mean of $17.89 per person, per day to access boating waterways. The $24.53 value calculated by Rosenberger and Loomis for motor boating in the Pacific region is consistent with our findings for California and provides a reasonable basis for consistent benefit analysis of boat launching facilities, and buttress our conclusion that selecting an annual recreational value for boating in California that is within the range suggested by the Contingent Valuation and Lump Sum Compensation Methods should be reasonable.

In selecting a single value to use in conducting cost-benefit analysis for boating facility investments, we recommend using the $17.89 figure derived from the Travel Cost method, for the following reasons:

1. The data from the California Boats and Boaters Survey is more current than the data used by Rosenberger and Loomis' for the Benefit Transfer method and information from the California Boats and Boaters Survey was collected from the specific population of users that the Department of Boating and Waterways serves.

2. As described above, the questions from the California Boats and Boaters Survey, upon which the Contingent Valuation and Lump Sum Compensation methods regarding contingent valuation and lump sum compensation were posed hypothetically and could naturally introduce a certain amount of downward and upward bias, respectively, into the results. Meanwhile the results of the survey question regarding travel costs provides a "revealed preference" that is based on survey respondents' actual behavior that falls within the range of values derived using the other methodologies.

3. As discussed above, because the $17.89 user day value derived from the travel cost method does not attempt to include costs such as lodging and food during travel and certain additional costs of vehicle ownership that would tend to increase this value, we believe it is reasonably conservative.

Table 2.3 summarizes our overall estimates of the recreational values of boating in California for 2000.

Table 2.3
Summary of Estimated Recreational Boating Values in California, 2000

Estimated Values of Boatng	
Per Person, per Day	$4.14 to $29.36
Recommended Value Per Person, per Day	$17.89
Per Boat, per Day	$15.76 to $100.71
Per Boat, per Year	$671.00 to $2,761.00
Statewide Total, per Year	**$684,529,373 to $2,816,670,043**
"Estimated number of miles a typical boater was willing to travel to access another waterway if the waterway used most often was no longer accessible"	81 Miles

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Chapter 2 Appendix

Table 1
Boating User Day Values, by Region

	Weighted Responses *(Boat wt)*	Mean	95% Confidence Interval, Mean		Median	Unweighted Responses
			Lower Bound	Upper Bound		
1. North Coast	250	$2.51	$2.13	$2.89	$2.00	227
2. San Francisco Bay	152	$4.52	$3.42	$5.62	$3.00	139
3. Central Coast	206	$4.81	$3.56	$6.07	$2.00	188
4. South Coast	117	$3.74	$2.90	$4.57	$2.00	107
5. San Diego	97	$2.61	$1.66	$3.55	$1.00	89
6. Northern Interior	380	$1.56	$1.33	$1.78	$0.00	347
7. Sacramento Basin	200	$4.72	$2.85	$6.58	$2.00	179
8. Central Valley	216	$4.18	$2.98	$5.39	$2.00	189
9. Eastern Sierra	111	$5.52	$3.35	$7.70	$5.00	103
10. Southern Interior	172	$3.69	$2.83	$4.54	$2.00	144

Sources: 2001 Survey of Boats and Boaters, California Department of Boating and Waterways; BAE.

Table 2
Boating Trip Day Values, by Region

Value represents the value per day, per boat (value, per person, per day, multiplied by number of people aboard on a typical boating trip) for boating activity.

	Weighted Responses *(Boat wt)*	Mean	95% Confidence Interval, Mean		Median	Unweighted Responses
			Lower Bound	Upper Bound		
1. North Coast	244	$8.38	$6.56	$10.20	$4.00	221
2. San Francisco Bay	145	$20.06	$13.45	$26.66	$8.00	133
3. Central Coast	200	$15.95	$11.03	$20.86	$6.00	182
4. South Coast	115	$13.81	$10.04	$17.58	$5.00	105
5. San Diego	97	$10.72	$4.93	$16.52	$3.00	89
6. Northern Interior	371	$3.93	$3.26	$4.59	$0.00	340
7. Sacramento Basin	190	$19.72	$10.16	$29.28	$4.00	169
8. Central Valley	210	$13.95	$10.68	$17.22	$6.00	185
9. Eastern Sierra	107	$22.35	$11.32	$33.38	$10.00	99
10. Southern Interior	165	$15.84	$9.73	$21.94	$5.00	137

Sources: 2001 Survey of Boats and Boaters, California Department of Boating and Waterways; BAE.

Table 3
Compensation Value for Loss of Access to Primary Waterway, by Region

Value represents the lump sum needed for boaters' loss of access to their primary boating waterway.

	Weighted Responses *(Boat wt)*	Mean	95% Confidence Interval, Mean		Median	Unweighted Responses
			Lower Bound	Upper Bound		
1. North Coast	143	$73,502.59	$20,982.99	$126,022.20	$500.00	130
2. San Francisco Bay	98	$29,016.76	$34.59	$57,998.92	$10.00	89
3. Central Coast	120	$43,075.95	$10,330.51	$75,821.39	$100.00	108
4. South Coast	72	$61,125.99	($5,733.10)	$127,985.07	$500.00	67
5. San Diego	57	$129,910.56	($50,683.32)	$310,504.44	$500.00	53
6. Northern Interior	202	$43,089.85	$400.49	$85,779.20	$0.00	181
7. Sacramento Basin	116	$35,741.35	$5,360.81	$66,121.89	$57.50	105
8. Central Valley	152	$24,428.03	$4,762.52	$44,093.55	$275.00	131
9. Eastern Sierra	73	$17,352.70	($10,026.67)	44.732.06	$100.00	64
10. Southern Interior	80	$34,491.19	($950.53)	$69,932.91	$8.50	73

Sources: 2001 Survey of Boats and Boaters, California Department of Boating and Waterways; BAE.

Table 4
Boating Trip Day Values, by Region, Based on Lump Sum Compensation

Value represents the value per day, per boat for boating activity. See text for methodology.

	Weighted Responses *(Boat wt)*	Mean	95% Confidence Interval, Mean		Median	Unweighted Responses
			Lower Bound	Upper Bound		
1. North Coast	138	$70.08	$21.13	$119.03	$1.05	125
2. San Francisco Bay	92	$37.96	$11.33	$64.59	$0.00	84
3. Central Coast	117	$119.61	$47.57	$191.66	$0.29	105
4. South Coast	66	$176.09	($62.48)	$414.66	$1.16	61
5. San Diego	54	$126.13	($10.98)	$257.25	$1.05	50
6. Northern Interior	192	$67.08	$14.66	$119.50	$0.00	172
7. Sacramento Basin	111	$63.54	($6.50)	$133.59	$0.06	100
8. Central Valley	139	$61.47	($8.82)	$131.77	$0.36	121
9. Eastern Sierra	69	$129.17	($108.33)	$366.66	$0.46	60
10. Southern Interior	73	$27.59	$8.98	$46.20	$0.00	66

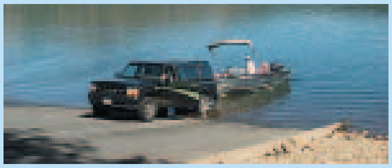
Sources: 2001 Survey of Boats and Boaters, California Department of Boating and Waterways; BAE.

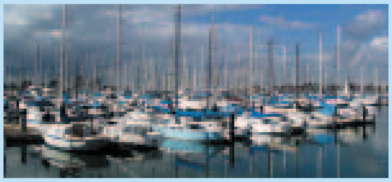
Table 5
Boating User Day Values, by Region, Based on Lump Sum Compensation
Value represents the value per day, per boat. See text for methodology.

	Weighted Responses *(Boat wt)*	Mean	95% Confidence Interval, Mean		Median	Unweighted Responses
			Lower Bound	Upper Bound		
1. North Coast	138	$27.46	$5.26	$49.66	$0.38	125
2. San Francisco Bay	92	$16.22	$2.66	$29.77	$0.00	84
3. Central Coast	117	$40.94	$15.65	$66.24	$0.08	105
4. South Coast	66	$41.06	($3.16)	$85.27	$0.34	61
5. San Diego	54	$52.37	($1.25)	$106.00	$0.18	50
6. Northern Interior	192	$21.80	$6.28	$37.33	$0.00	172
7. Sacramento Basin	111	$20.93	($2.34)	$44.19	$0.03	100
8. Central Valley	139	$18.21	($0.72)	$37.14	$0.15	121
9. Eastern Sierra	69	$41.51	($37.63)	$120.65	$0.10	60
10. Southern Interior	73	$8.52	$2.07	$14.97	$0.00	66

Sources: 2001 Survey of Boats and Boaters, California Department of Boating and Waterways; BAE.

Chapter 3





Forecasts of Boating Activity and Facilities Needs

3. Forecasts of Boating Activity and Facilities Needs

A. Introduction

This chapter presents a historical analysis, and forecasts, of boat ownership trends and boating facility needs for California and its regions, with narrative explanation of the forecast rationale and a qualitative discussion of the findings. Following the introduction, this chapter is divided into five sections:

- ***Historical Boat Population Trends by Region*** – examines boat ownership trends by region and boat-length in California, from 1985 to 2000
- ***Forecast of Boat Population Trends*** – describes and provides results of a forecasting model that projects boat ownership in California by region, and boat length, through 2020
- ***Projected Statewide Additional Boating Facilities Needs*** – provides projections for numbers needed and total costs of launch ramp lanes, parking spaces for cars with trailers, dry storage spaces, and wet storage spaces through 2020, based on results of the forecast model and the 2001 boating facility inventory
- ***Projected Regional Additional Boating Facilities Needs*** – provides projections for numbers needed and total costs for launch ramp lanes, parking spaces for cars with trailers, dry storage spaces, and wet storage spaces through 2020, for the BNA regions
- ***Chapter 3 Appendix*** – provides detailed results and supporting tables, including historical boat ownership, alternative forecasting models, model selection and detailed tables, statewide forecast tables, regional needs background tables, and a recommended method for an ongoing monitoring and forecasting program.

The forecasts make use of state and county population estimates and projections by the California Department of Finance, boat ownership data from the California Department of Motor Vehicles and the U.S. Department of Transportation, current boating activity patterns from the Boater Survey (California Boating Facilities Needs Assessment (BNA), Volume 1, Chapter 2), and boating facility data from the Facility Survey (BNA Volume 1, Chapter 3 and BNA Volume II). The forecasts are further detailed wherever possible by type of boat (<16 foot jet, <16 foot other, 16 to 19 feet, 20 to 25 feet, 26 to 39 feet, 40 feet and up) or by length class (<26 feet, 26 feet and up) within each region.

The forecasts are calculated using a computerized numerical simulation model of boating activity in the State. Its general rationale, data inputs, and assumptions are documented in this chapter and the appendix to this chapter. The appendix to this chapter also contains recommended methods and procedures for a program of monitoring future trends as new data inputs become available.

B. Historical Boat Population Trends by Region

BNA Volume 1, Chapter 2, covered in some detail the historical growth of boat ownership and shifting distribution of types of boats in California since 1973. This section extends the regional dimension of that analysis for the fifteen year time period, 1985 to 2000. It is based upon a detailed reconstruction of actual boat inventories at five-year intervals, taking advantage of the fact that since 1985 no ownership records were deleted from either the Federal or state data bases: when a boat's registration expires or was cancelled, the termination date was entered in the record, but the record remained. To select the records that were valid at the end of 1995, for example, it was only necessary to select the ones created before and not yet expired as of that date.[1] Regional populations were then compared with published counts and correction factors were applied to reconcile the tables. The correction factors used are listed in the Chapter 3 Appendix, Table 3. Despite these minor defects, the approach permits complete historical cross-tabulations of boat types for geographic regions, which is useful for modeling future growth. **Table 3.1** and **Exhibit 3.1** show the reconstructed boat populations and the annual growth rates by region.

The majority of boats in the state are owned by residents of the metropolitan coastal regions: the South Coast, San Francisco Bay, and the San Diego Region, but that majority is eroding. A majority of new boats since 1985 were registered to residents of the Central Valley, Sacramento Basin, and Southern Interior regions. The Southern Interior region was the fastest-growing region in every time period, whereas the South Coast and San Francisco regions were among the slowest. The statewide pattern of gradually flattening growth rates held true for every region.

C. Forecast of Boat Population Trends

1. *Recommended Statewide Model: Regional Per Capita Ownership Trends*

After testing several forecasting models, we determined that a model based on regional population and the trend in boat ownership per capita by regions produced the best fit with historical trends. The model combines regional per capita boat ownership trends with California Department of Finance population projections to forecast future boat ownership. In effect, the shifting distribution of population from regions of high to low boat ownership per capita (i.e. the large metropolitan centers) neatly accounts for 98 percent to 99 percent of the variance in boat population, and clearly reproduces the flattening of rates in the 1990s.

[1] The method was not perfect, as some records were missing their input dates, but for the most part the model year or build date could be used as a substitute.

Details of the model and supporting data are listed in the Chapter 3 Appendix, Tables 2, 3, and 4. The model was developed in three versions, RP1, RP2, and RP3, calibrated to match 15, 10, and 5-year trends, respectively. The 15-year trend gives the highest projections, the 5-year trend the lowest, but all three versions reproduce the progressive flattening of growth rates. A feature of this model is that it yields regional as well as statewide forecasts. For policy analysis and planning purposes, we recommend using projections based on RP1 as an upper bound and RP3 as a lower bound, with reasonable assurance that future California boat populations should lie between the two for the next decade and possibly longer (See Chapter 3 Appendix, Exhibit 1e through 1g).

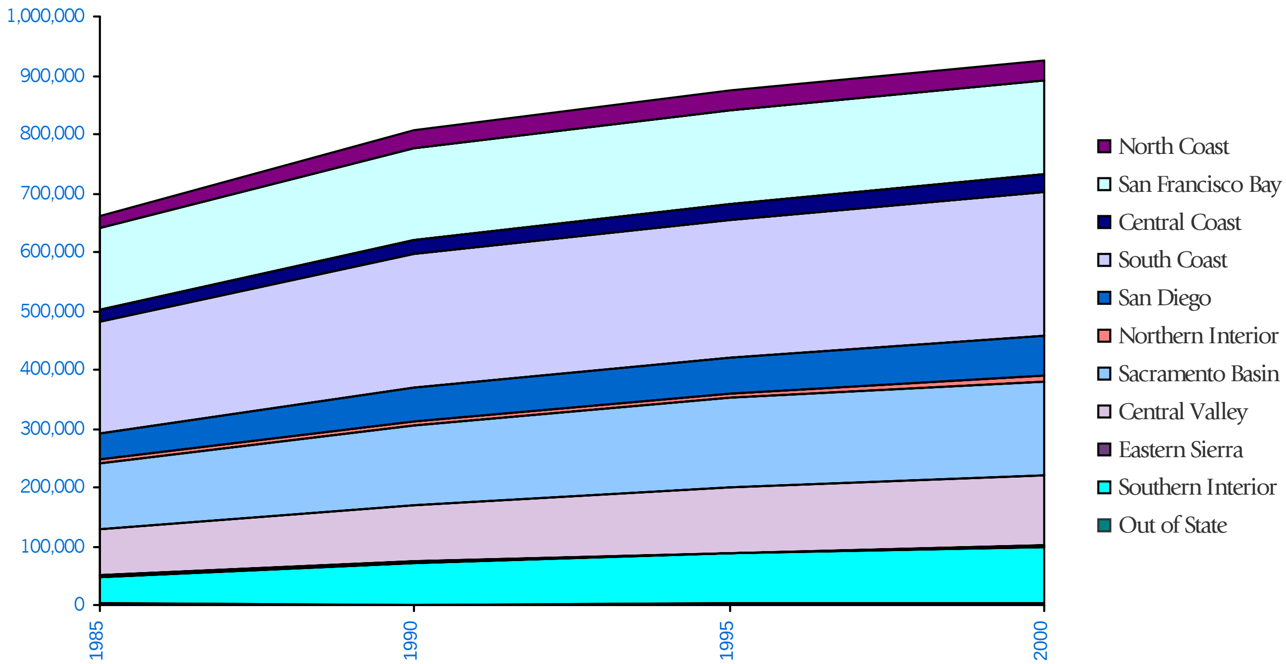
Table 3.1
Historical Boat Population and Trends, California by Region, 1985 to 2000

Region		Boats Registered or Documented as of			
		1985	1990	1995	2000
1.	North Coast	21,063	29,012	33,830	34,642
2.	San Francisco Bay	136,938	156,094	157,795	158,223
3.	Central Coast	20,225	24,438	27,268	30,617
4.	South Coast	191,396	226,935	234,486	245,380
5.	San Diego	45,325	58,076	61,561	68,232
6.	Northern Interior	5,129	6,488	7,297	7,804
7.	Sacramento Basin	110,764	136,576	152,167	160,490
8.	Central Valley	80,330	95,967	109,599	117,552
9.	Eastern Sierra	2,039	2,268	2,797	2,951
10.	Southern Interior	45,635	69,201	84,208	97,272
11.	Out of State	2,036	1,599	2,635	2,396
Total		**660,880**	**806,654**	**873,643**	**925,559**
Instate		**658,844**	**805,055**	**871,008**	**923,163**

Region		Annual Growth Rates		
		1985 to 90	1990 to 95	1995 to 2000
1.	North Coast	7.5%	3.3%	0.5%
2.	San Francisco Bay	2.8%	0.2%	0.1%
3.	Central Coast	4.2%	2.3%	2.5%
4.	South Coast	3.7%	0.7%	0.9%
5.	San Diego	5.6%	1.2%	2.2%
6.	Northern Interior	5.3%	2.5%	1.4%
7.	Sacramento Basin	4.7%	2.3%	1.1%
8.	Central Valley	3.9%	2.8%	1.5%
9.	Eastern Sierra	2.2%	4.7%	1.1%
10.	Southern Interior	10.3%	4.3%	3.1%
11.	Out of State	-4.3%	13.0%	-1.8%
Total		**4.4%**	**1.7%**	**1.2%**
Instate		**4.4%**	**1.6%**	**1.2%**

Source: DMV, MARAD

Exhibit 3.1
Historical Boat Population and Trends, California by Region, 1985 to 2000



2. *Predicting State and Regional Boat Populations*

Models RP1 and RP3 were run to forecast regional boat ownership rates per capita for the years 2005, 2010, 2015 and 2020. California Department of Finance county population forecasts were combined into regions, and multiplied by the forecast boat ownership per capita rates, yielding a high and low series of state and regional boat population forecasts (see **Table 3.2**).

3. *Predicting the Mix of Boat Types within Regions*

Multiplying the forecast total number of boats for each region (Forecast Series RP1 and RP3) by the standardized share mix by length type for that region produced high and low forecasts for numbers of boats of each type at five-year intervals (Chapter 3 Appendix, Tables 5 to 7). Boat population is divided for purposes of this analysis into six types, consistent with the previous volumes of the BNA:

Table 3.2
Forecasts of Total Boats by Region of Owner's Residence, 2000 to 2020

	Region	RP1: 1985 to 2000 Per Capita Trend (High Projection)				
		2000 12/31/00	2005 12/31/05	2010 12/31/10	2015 12/31/15	2020 12/31/20
1.	North Coast	34,642	42,293	48,300	53,987	60,151
2.	San Francisco Bay	158,223	170,069	174,806	176,273	179,219
3.	Central Coast	30,617	36,292	42,214	48,472	55,749
4.	South Coast	245,380	267,095	284,069	299,463	320,691
5.	San Diego	68,232	78,407	87,164	95,384	105,830
6.	Northern Interior	7,804	9,228	10,517	11,761	13,086
7.	Sacramento Basin	160,490	185,777	207,021	226,074	247,013
8.	Central Valley	117,552	134,340	151,567	168,251	187,606
9.	Eastern Sierra	2,951	3,379	3,781	4,195	4,653
10.	Southern Interior	97,272	121,545	147,540	175,999	211,000
11.	Out of State	2,396	2,396	2,396	2,396	2,396
	Total	**925,559**	**1,050,822**	**1,159,376**	**1,262,254**	**1,387,393**

	Region	RP3: 1995 to 2000 Per Capita Trend (Low Projection)				
		2000 12/31/00	2005 12/31/05	2010 12/31/10	2015 12/31/15	2020 12/31/20
1.	North Coast	34,642	36,603	38,001	38,702	39,364
2.	San Francisco Bay	158,223	157,474	153,015	145,001	137,563
3.	Central Coast	30,617	35,196	40,089	45,150	51,009
4.	South Coast	245,380	254,185	261,772	267,196	277,030
5.	San Diego	68,232	76,888	84,498	91,464	100,437
6.	Northern Interior	7,804	8,681	9,539	10,317	11,133
7.	Sacramento Basin	160,490	175,295	187,281	195,962	205,019
8.	Central Valley	117,552	131,474	145,749	158,991	174,228
9.	Eastern Sierra	2,951	3,172	3,390	3,604	3,843
10.	Southern Interior	97,272	117,015	138,640	161,774	190,077
11.	Out of State	2,396	2,396	2,396	2,396	2,396
	Total	**925,559**	**998,379**	**1,064,368**	**1,120,558**	**1,192,101**

- Boats over 40 feet long
- Boats 26 feet to 40 feet
- Boats 20 feet to 25 feet 11 inches
- Boats 16 feet to 19 feet 11 inches
- Personal watercraft (defined as boats under 16 feet with waterjet propulsion)
- Other boats under 16 feet.

The general proportions of these size groups has remained remarkably steady since the 1970s, with 50 percent of the fleet under 16 feet, and 20 percent over 20 feet in length. The increasing size of trailered boats is noticeable in the growing share of boats 20 feet to 25 feet for the Sacramento Basin, Central Valley, Southern Interior, and San Francisco Bay regions, and a corresponding decline in the share of boats 16 feet to 19 feet for those same regions.

Personal Watercraft Forecasts

Dramatic changes have occurred within the under-16 foot category. Beginning in 1976 with the introduction of the Kawasaki JetSki to the California market through Kawasaki motorcycle dealers, PWCs captured a remarkable share of the market, climbing to 13.5 percent of all boats in California by 2000 while the number of other boats under 20 feet virtually stagnated. The key to forecasting the boat mix, then, is to understand the dynamics of the PWC invasion. One hypothesis is that PWCs, like many successful innovations, have penetrated the market rapidly at first, but will quickly approach an equilibrium share and grow thereafter at nearly the same rate as other types. To test this hypothesis, we used a model of PWC population growth as a function of the inverse of the time in years since it was introduced to California. The form of the model is y=b-a/z, where y is the PWC share of total boats, z is the number of years elapsed since the introduction of PWCs to California, i.e. x-1977, and a and b are regression coefficients produced by the least squares method. The model produced a good fit, explaining 98.8 percent of the variance in PWC statewide share, compared with 95.5 percent for a linear model (**Table 3.3**). It also performed well within each region. The same form of model also proved to be a better predictor than a linear y=ax+b model for other boats under 16 feet, supporting the hypothesis that PWCs were attracting buyers away from other parts of the small-boat market.

Table 3.3
Model PWC1: PWC Market Penetration Trends

	1985	1990	1995	2000
PWC Year	9	14	19	24
1/PWCY	0.1111	0.0714	0.0526	0.0417
1-15' Jet	20,302	67,077	110,806	124,973
Total 1-15'	**299,089**	**377,615**	**428,009**	**457,329**
% PWC	6.79%	17.76%	25.89%	27.33%
Backcast	5.04%	18.26%	24.53%	28.18%

For boats over 16 feet, the mix of sizes has changed little. A simple straight-line (y=ax+b) model was therefore used to estimate those trends for each region and type of boat over 16 feet, and project them forward in 5-year increments to 2020 (Chapter 3 Appendix, Table 8).[2]

Between 2000 and 2020, the forecasts suggest that the overall number of boats in California will increase at a rate of between 13,000 and 23,000 boats a year, a growth rate of 1.4 percent to 2.5 percent. As **Table 3.4** illustrates, most or all of the growth will be in the number of boats under 26 feet long. The most popular category will be conventionally powered boats under 16 feet, which will increase by about 4,500 to 8,000 boats a year. PWCs and boats 20 feet to 25 feet long will each increase by about 4,500 to 6,000 a year. Very modest overall growth is expected in the size categories 16 feet to 19 feet and over 26 feet.

[2] The resulting forecast shares diverged slightly from a total of 1.000 for each region, so the shares were then standardized by dividing each share by the sum of shares for that region (Chapter 3 Appendix, Table 9).

Table 3.4
Average Annual Increase in Number of Boats by Type, 2000 to 2020

	Low	High
<16′ Jet	4,433	5,994
<16′ Other	4,559	8,093
16-19′	666	3,103
20-25′	3,814	5,531
26-39′	(310)	54
40′ +	165	317
Total	**13,327**	**23,092**

The broad implications of these forecasts for boating facility needs are:

1. The number of boats using launching facilities will increase by 31 percent to 53 percent between 2000 and 2020, resulting in strong demand for increased launching capacity and related services statewide.

2. There will continue to be a surplus of wet storage capacity in much of the state through 2020, or later. The market impact of this surplus will be high vacancies, low market rents, and widespread needs for financial assistance to avoid deterioration or abandonment of existing facilities.

D. Projected Statewide Additional Boating Facilities Needs

We prepared estimates of long-term boating facilities needs for each region by combining forecasts of California boat populations with information from the California Boats and Boaters Survey about how people store, launch, and use their boats in each region and information from the Boating Facilities Survey on the capacity and utilization of existing boating facilities, as shown in **Table 3.5**.[3] Regional facility demand and needs were then summed for the statewide totals, shown in **Table 3.6**. Table 10 in the Chapter 3 Appendix provides additional detail by regions.

Launching facility expansion needs are forecast based on maintaining a constant number of launches per lane per day for each region.[4] This method is used because of regional user preferences (most northern boaters would not tolerate levels of congestion found in the south) and because maintaining un-congested conditions where they exist will encourage some boaters with a choice of destinations to travel rather than add their own activity to the problems of congested areas.

Additional launching capacity will be needed in every region (with the possible exception of the San Francisco Bay region) for every time period, totaling 554 to 890 additional ramp lanes and 18,043 to 28,217 parking spaces for car and trailer. These additional launch ramp and car-with-trailer parking needs represent an increase in current capacity of between 34 percent and 55 percent over the next 20 years.

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[3] We extrapolated from results of the Boating Facilities Survey and additional research on facilities not in the survey, to estimate occupancy and total capacity by region.

[4] The high and low boat population forecasts were used to calculate boat use days per year by length category. Then, again using the California Boats and Boaters Survey results, use days per year were used to calculate launch demand. The projected launch demand was multiplied by the current ratio of launch ramp lanes to demand to identify new demand.

Table 3.5
2001 Boating Facility Capacity, Occupancy, and Utilization by Region

Region	Dry Storage at Boating Facilities			Launching Facilities					Berths, Tie-ups, and Moorings		
	Total	Occu-pancy	Occu-pancy Rate	Ramp Lanes	Parking with Trailer	Annual Launching	Launches per Lane per Day	Launches per Space per day	Total	Occu-pancy	Occu-pancy Rate
1. North Coast	322	97	30%	62	1,342	1,022,649	45.2	2.1	4,039	3,235	80.1%
2. San Francisco Bay	8,285	6,131	74%	214	6,122	4,465,125	57.2	2.0	27,691	25,237	91.1%
3. Central Coast	712	570	80%	74	1,985	867,147	32.1	1.2	4,232	3,322	78.5%
4. South Coast	3,152	2,490	79%	193	3,356	7,904,727	112.2	6.5	34,532	31,712	91.8%
5. San Diego	783	752	96%	55	1,331	1,660,465	82.4	3.4	11,078	10,852	98.0%
6. Northern Interior	225	50	22%	38	512	227,701	16.4	1.2	216	115	53.1%
7. Sacramento Basin	3,685	3,059	83%	494	14,889	5,427,558	30.1	1.0	17,624	13,476	76.5%
8. Central Valley	1,905	972	51%	303	9,541	3,774,428	34.1	1.1	8,901	7,964	89.5%
9. Eastern Sierra	550	319	58%	50	4,124	71,143	3.9	<0.1	1,007	449	44.6%
10. Southern Interior	2,296	1,768	77%	154	8,358	3,163,578	56.3	1.0	4,328	2,674	61.8%
Total	**21,915**	**9,978**	**46%**	**1,638**	**51,614**	**23,096,747**	**38.6**	**1.2**	**113,648**	**99,844**	**87.9%**
CV+ES	2,455	1,291	53%	353	13,665	3,845,571	29.8	0.8	9,908	8,413	84.7%
SC+SI	5,448	4,258	78%	347	11,714	11,068,305	87.4	2.6	38,860	34,386	89.2%

Occupancy rates calculated from facility survey for those facilities with both capacity and occupancy information.
State and CV+ES and SC+SI rates calculated from the totals and estimated occupancy.

Table 3.6
Statewide Totals — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	147	240	139	213	268	437	**554**	**890**	$55,400,000	$89,000,000
Parking for Cars with Trailers	4,752	7,536	4,530	6,769	8,761	13,912	**18,043**	**28,217**	36,086,000	56,434,000
Dry Storage Spaces	11,586	20,562	11,563	17,935	24,893	38,846	**48,042**	**77,343**	72,063,000	116,014,500
Wet Storage Spaces	1,123	1,363	1,557	4,736	6,698	15,128	**9,378**	**21,227**	294,600,000	671,645,000
Total Construction Costs									**$458,149,000**	**$933,093,500**

Dry storage needs forecasts are for all types of storage other than the owner's home; most of this need is currently provided by general storage, not boating facilities. Dry storage demand was calculated by multiplying the boater population projections by the percent of boats dry stored at other properties (i.e. not at home). Dry boat storage needs will also expand greatly (again with the possible exception of the San Francisco Bay), which may represent a potential new revenue source for boating facilities. An estimated 48,042 to 77,343 additional dry storage spaces will be needed statewide through 2020.

Wet storage demand was calculated by multiplying the boater population projections by the percent of boats using wet storage from the California Boats and Boaters Survey. These figures were normalized to the actual occupancy calculated from the California Boating Facilities Survey. Facility need or surplus capacity is equal to the difference between demand plus a five percent vacancy rate and 2001 capacity. No significant increase in wet storage capacity is needed in any region except San Diego before 2005, and only modest increases are needed in most regions until after 2010. A total of 9,378 to 21,227 wet storage berths or moorings will be needed statewide through 2020, representing an increase over existing capacity of between 8 percent and 18 percent. Over 70 percent of the new demand will not be needed until 2011 to 2020.

Occupancy rates are therefore expected to remain low and rents flat, except for high quality facilities in high-value niche locations. Other existing wet storage boating facilities will likely have needs for financial assistance in maintaining the condition of existing facilities, helping adapt to changing vessel sizes and service demands, and helping develop supplemental revenue sources in order to remain financially viable. These needs are likely to be particularly urgent in the San Francisco Bay, North Coast, and Northern Interior Regions.

It should be noted that the Central Coast, San Diego, South Coast, and Southern Interior regions have very limited wet storage expansion capacity, so some of this demand may go unmet, resulting in further reduction of per capita boat ownership in those regions. Significant upgrades and replacements will continue to be needed in all regions, as discussed in the chapter on the Facilities Survey.

The cost of providing the additional capacity needed is estimated in **Table 3.7**. These cost figures estimate the total costs of fulfilling the additional facility needs for both the low and high demand projections. Typical 2002 construction costs are used, with regional variations for the cost of wet storage spaces (ranging from $20,000 per space in the Northern Interior, to $35,000 per space in the South Coast, Southern Interior, and San Diego regions). The total costs for meeting all projected new facility needs range from $458 million to $929 million, or $22.9 to $46.4 million per year for 20 years. Table 11 in the Chapter 3 Appendix shows the costs for each facility type by region.

Table 3.7
Construction Costs of Additional Facilities Needs Statewide, 2002 to 2020

	Number		Unit Cost in 2002 $	Cost	
	Low	High		Low	High
Launch Ramp Lanes	554	890	$100,000	$55,400,000	$89,000,000
Parking for Cars with Trailers	18,043	28,217	2,000	36,086,000	56,434,000
Dry Storage Spaces	48,042	77,343	1,500	72,063,000	116,014,500
Wet Storage Spaces	9,378	21,227	varies	294,600,000	671,645,000
Total				**$458,149,000**	**$933,093,500**

E. Projected Regional Additional Boating Facilities Needs

Projections for regional facilities needs and construction costs are provided below. The demand and facilities need projections for the South Coast and Southern Interior regions were combined because it was clear from the California Boats and Boaters Survey that South Coast boaters do much of their boating in the Southern Interior regions. Similarly, the Eastern Sierra and Central Valley region demand and facility needs were combined as many Central Valley boaters use Eastern Sierra waterways.

Summary tables for each region provide the low and high estimates based on the low and high boater population forecasts for facilities needs projections. Projections are provided in three time periods and for four types of facilities: (1) launch ramp lanes, (2) parking stalls for cars with trailers, (3) dry storage spaces, and (4) wet storage spaces. In addition, total construction costs for the low and high projections of new facilities through 2020 are provided. Detailed results and calculation tables for each region are provided in the Chapter 3 Appendix, Tables 12 through 23.

There are significant regional differences in all four types of facility needs. Dry storage capacity at boating facilities is 96 percent occupied in the San Diego region, suggesting a shortage, but the North Coast and Northern Interior have under 50 percent occupancy, suggesting overcapacity. Launching facilities are utilized most heavily in the combined Southern Interior-South Coast regions, where there are an average of 87 launches per lane, per day (looking at South Coast only, the rate is higher, at 112 launches per lane, per day). At the other extreme, the Northern Interior region averages 16 launches per lane, per day. Parking capacity is much more closely attuned to launching demand, showing less relative variation between regions in launches per space, per day, once the Eastern Sierra and Southern Interior are combined with their more urbanized neighbors. Wet storage occupancy rates are an extremely high 98 percent for the San Diego region (approximately 5 percent vacancies are normal in a healthy marina market to allow for turnover and transient use). Existing wet storage capacity exceeds projected demand plus a 5 percent vacancy allowance for every other region of the state.

1. North Coast Region

Results for the North Coast region are summarized in **Table 3.8**. We found 62 launching ramp lanes useable at any one time in the region, served by 1,342 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is just over 1 million launches per year, or 45 launches per lane per day, which is just below the state average. Parking is used at a rate of 2.1 launches per space per day, compared to a state average of 1.2. One-third of facilities reach capacity 15 days or more per year. To maintain this level of service through the year 2020 will require an additional 10 to 48 launch ramp lanes and 228 to 1,039 car and trailer parking spaces.

Table 3.8
North Coast — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	4	14	3	11	3	23	**10**	**48**	$1,000,000	$4,800,000
Parking for Cars with Trailers	76	297	76	245	76	497	**228**	**1,039**	456,000	2,078,000
Dry Storage Spaces	344	1,295	260	1,037	284	2,073	**888**	**4,405**	1,332,000	6,607,500
Wet Storage Spaces	—	—	—	354	—	746	**—**	**1,100**	—	27,500,000
Total Construction Costs									**$2,788,000**	**$40,985,500**

About 5,773 boats owned by residents of the region are dry stored off their owners' property. Only a few percent of these are in dry storage at boating facilities, and all facilities reported substantial vacancies. We project a need for an additional 888 to 4,405 dry storage spaces by 2020, but note that boaters in this region seem to prefer cheaper general storage facilities, not boating facilities.

There are 4,039 wet storage berths and moorings in the region, of which an estimated 3,235, or 80 percent, are occupied. Allowing for a 5 percent normal vacancy rate, all surplus capacity is not likely to be absorbed by 2020 under our low projections. Under the high projections, there will be a need for an additional 1,100 berths after 2005. There will be substantial needs during this period, however, for dock replacements and correction of deferred maintenance problems, without which the total wet storage capacity, will decline substantially. The total estimated costs for additional facilities in this region through 2020 ranges from $2.8 million to $41 million.

2. *San Francisco Bay Region*

Results for the San Francisco Bay region are summarized in **Table 3.9**. We found 214 launching ramp lanes useable at any one time in the region, served by 6,122 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is 4.5 million launches per year, or 57 launches per lane per day, above the state average. Parking is used at a rate of 2.0 launches per space per day, compared to a state average of 1.2. Over one-third of facilities reach capacity 15 days or more per year. Launching demand will increase only under the high use projection, which would generate a need for up to 33 additional launching ramp lanes and up to 960 additional car and trailer parking spaces.

About 33,000 boats owned by residents of the region are dry stored off their owners' property. There are 6,131 boats in dry storage at the region's boating facilities, which have capacity for a total of 8,285. We project a demand for up to 5,134 additional dry storage spaces by 2020 under the high projections, some of which could be provided by existing capacity at boating facilities.

Table 3.9
San Francisco Bay — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	—	17	—	8	—	8	**—**	**33**	$—	$3,300,000
Parking for Cars with Trailers	7	497	—	230	—	233	**7**	**960**	14,000	1,920,000
Dry Storage Spaces	—	2,667	—	1,162	—	1,305	**—**	**5,134**	—	7,701,000
Wet Storage Spaces	—	—	—	352	—	540	**—**	**892**	—	26,760,000
Total Construction Costs									$14,000	$39,681,000

There are 27,691 wet storage berths and moorings in the region, of which an estimated 25,287, or 91 percent, are occupied. Allowing for a 5 percent normal vacancy rate, surplus capacity is not likely to be absorbed until after 2020 under the low projections. Under the high boat population projections, there will be a need for an estimated 892 additional berths after 2005. There will be substantial needs during this period, however, for dock replacements and correction of deferred maintenance problems in order to maintain the existing supply.

The total estimated costs through 2020 for new facilities in the San Francisco Bay region ranges from under $14,000 to almost $40 million.

3. *Central Coast Region*

Results for the Central Coast region are summarized in **Table 3.10**. We found 74 launching ramp lanes useable at any one time in the region, served by 1,985 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is about 867,000 launches per year, or 32 launches per lane per day, well below the state average. Parking is used at a rate of 1.2 launches per space per day. Over one-half of facilities reach capacity 1 to 15 days per year, and almost 30 percent reach capacity over 15 days per year. To maintain this level of service will require an additional 49 to 60 launching ramp lanes and 1,319 to 1,625 additional car and trailer parking spaces by 2020.

About 5,400 boats owned by residents of the region are dry stored off their owners' property. Only 570 boats are in dry storage at the region's boating facilities, which have capacity for a total of 712. We project demand for 3,836 to 4,696 additional dry storage spaces by 2020.

Table 3.10
Central Coast — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	11	14	12	14	26	32	**49**	**60**	$4,900,000	$6,000,000
Parking for Cars with Trailers	308	379	316	383	695	863	**1,319**	**1,625**	2,638,000	3,250,000
Dry Storage Spaces	802	996	924	1,109	2,110	2,591	**3,836**	**4,696**	5,754,000	7,044,000
Wet Storage Spaces	—	—	123	354	1,015	1,283	**1,138**	**1,637**	34,140,000	49,110,000
Total Construction Costs									$47,432,000	$65,404,000

Table 3.11
South Coast and Southern Interior — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	32	50	36	51	82	120	**150**	**221**	$15,000,000	$22,100,000
Parking for Cars with Trailers	1,083	1,700	1,216	1,729	2,785	4,056	**5,084**	**7,485**	10,168,000	14,970,000
Dry Storage Spaces	5,080	8,378	4,882	7,431	11,694	17,825	**21,656**	**33,634**	32,484,000	50,411,000
Wet Storage Spaces	—	—	—	1,097	—	3,582	**—**	**4,679**	—	163,765,000
Total Construction Costs									$57,652,000	$251,286,000

There are 4,232 wet storage berths and moorings in the region, of which an estimated 3,322, or 78.5 percent, are occupied. Allowing for a 5 percent normal vacancy rate, surplus capacity is likely to be absorbed soon after 2005. Approximately 1,138 to 1,637 new wet storage berths or moorings may be needed in the region in the period 2010 to 2020. However, a few marinas on the coast have waiting lists many years long, indicating a higher demand than these figures project.

The total estimated construction costs for new facilities in the Central Coast region ranges from $47.4 million to $65.4 million, through 2020.

4. *South Coast and Southern Interior Regions*

Combined results for the South Coast and Southern Interior regions are shown in **Table 3.11**. South Coast boaters actually do much of their boating in the adjacent Southern Interior region. When launching supply and demand figures for the two regions are combined, we found 347 launching ramp lanes useable at any one time in the region, served by 11,714 parking spaces. A total of 71 percent of the two regions' car-and-trailer parking is in the Southern Interior region, but less than 30 percent of the combined launching demand comes from Southern Interior residents. Survey responses indicate that combined launching demand by residents is 11 million launches per year, or 87 launches per lane per day, the highest in the state. Parking is used at a rate of 2.6 launches per space per day, also above the state average. About 40 percent of facilities reach capacity more than 15 days per year, although data are missing from some major South Coast facilities. To maintain even this heavily impacted level of service in 2020 will require an additional 150 to 221 launching ramp lanes and 5,084 to 7,485 additional car and trailer parking spaces. Given the limited number and size of waterways in the two regions, such an increase could have a large negative impact on the quality of Southern California's boating resources.

About 65,000 boats owned by residents of the two regions are dry stored off their owners' property. Only 4,258 boats are in dry storage at the region's boating facilities, which have capacity for a total of 5,448. We project demand for at least 21,656 to 33,634 additional dry storage spaces by 2020. Additional dry storage demand may come from boaters unable to find suitable wet storage in the region.

There are 38,860 wet storage berths and moorings in the region, of which an estimated 34,386, or 89.2 percent, are occupied. Allowing for a five percent normal vacancy rate, surplus capacity at the high projections is likely to be absorbed soon after 2005. No additional capacity is needed at the low projections. As many as 4,679 new wet storage berths or moorings may be needed in the two regions in the period 2005 to 2020. Given the small number of suitable sites for wet storage expansion within the two regions, however, it seems likely that many boats will be moved from wet to dry storage or wet-stored outside the two regions.

The total estimated construction costs through 2020 in the combined regions ranges from $57.6 million to $251.3 million.

5. San Diego Region

Results for the San Diego region are shown in **Table 3.12**. We found 55 launching ramp lanes useable at any one time in the region, served by 1,331 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is about 1.7 million launches per year, or 82 launches per lane per day, well above the state average. Parking is used at a high rate of 3.4 launches per space per day. Over one-third of facilities reach capacity more than 15 days per year. To maintain this level of service will require an additional 28 to 32 launching ramp lanes and 672 to 778 additional car and trailer parking spaces by 2020.

About 14,000 boats owned by residents of the region are dry stored off their owners' property. There are 752 boats in dry storage at the region's boating facilities, which have capacity for a total of 783. We project demand for 7,136 to 8,274 additional dry storage spaces by 2020.

There are 11,078 wet storage berths and moorings in the region, of which an estimated 10,852, or 98.0 percent, are occupied. Allowing for a five percent normal vacancy rate, 317 additional berths or moorings are needed immediately. Including that 317, between 1,123 and 1,363 new wet storage berths or moorings will be needed in the region in the period 2001 to 2005, and a total of 2,652 to 3,388 new berths or moorings through 2020.

Table 3.12
San Diego — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	7	8	7	8	14	16	**28**	**32**	$2,800,000	$3,200,000
Parking for Cars with Trailers	175	204	159	181	338	393	**672**	**778**	1,344,000	1,556,000
Dry Storage Spaces	1,770	2,083	1,706	1,946	3,660	4,245	**7,136**	**8,274**	10,704,000	12,411,000
Wet Storage Spaces	1,123	1,363	587	749	942	1,276	**2,652**	**3,388**	92,820,000	118,580,000
Total Construction Costs									$107,668,000	$135,747,000

The total estimated construction costs for new facilities in the San Diego region ranges from about $108 million to $136 million through 2020.

6. *Northern Interior Region*

Results for the Northern Interior region are shown in **Table 3.13**. We found 38 launching ramp lanes useable at any one time in the region, served by 512 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is about 228,000 launches per year, or 16 launches per lane per day, well below the state average. Parking is used at a rate of 1.2 launches per space, per day. Only one of the region's facilities ever reaches capacity over 15 times per year. Resident launching demand growth through 2020 could result in the need for an additional 16 to 26 new launch lanes and 221 to 350 additional parking spaces with trailers.

Over 95 percent of dry-stored boats owned by residents of the region are stored on their owners' property. Only 663 boats are in dry storage away from home, and only 50 are at boating facilities, which have capacity for a total of 225. We project demand for 314 to 486 additional dry storage spaces by 2020.

There are 216 wet storage berths in the region, of which an estimated 115, or 53 percent, are occupied. Allowing for a five percent normal vacancy rate, no additional berths are needed in the region through 2020. High vacancy rates may well lead to deterioration and abandonment of facilities, however, unless operating subsidies are provided.

The total estimated construction costs for new facilities in the Northern Interior region ranges from $2.5 million to $4 million through 2020.

Table 3.13
Northern Interior — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	4	7	4	6	8	13	**16**	**26**	$1,600,000	$2,600, 000
Parking for Cars with Trailers	58	94	57	86	106	170	**221**	**350**	442,000	700, 000
Dry Storage Spaces	81	128	80	118	153	240	**314**	**486**	471,000	729, 000
Wet Storage Spaces	—	—	—	—	—	—	**—**	**—**	—	—
Total Construction Costs									$2,513,000	$4,029,000

7. Sacramento Basin Region

Results for the Sacramento Basin region are shown in **Table 3.14**. The Sacramento region is rich in boating resources and serves many users from the San Francisco Bay Region and other areas. We found 494 launching ramp lanes useable at any one time in the region, served by 14,889 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is 5.4 million launches per year, or 30 launches per lane per day, well below the state average. Parking is used by residents at a low rate of 1.0 launches per space per day. Actual use of ramps and parking is higher than these figures suggest: over one-third of facilities reach capacity more than 15 days per year, and another half do so 1 to 15 days a year. To maintain this level of service, resident demand growth will require an additional 134 to 262 launching ramp lanes and 4,037 to 7,913 additional car and trailer parking spaces by 2020. Additional launching demand will arise due to needs that cannot be met in other regions.

About 16,000 boats owned by residents of the region are dry stored off their owners' property. Approximately 3,059 boats are in dry storage at the region's boating facilities, which have capacity for a total of 3,685. We project demand for 5,109 to 9,455 additional dry storage spaces by 2020.

There are 17,624 wet storage berths and moorings in the region, of which an estimated 13,476, or 76.5 percent, are occupied. Allowing for a five percent normal vacancy rate, surplus capacity will probably be absorbed for the high projection between 2006 and 2010. Approximately 1,339 to 5,224 new wet storage berths or moorings will be needed in the region in the period by 2020.

The total estimated construction costs through 2020 for new facilities in the Sacramento Basin region ranges from about $69 million to $213 million.

Table 3.14
Sacramento Basin — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch Ramp Lanes	47	79	35	64	52	119	**134**	**262**	$13,400,000	$26,200,000
Parking for Cars with Trailers	1,413	2,388	1,068	1,924	1,556	3,601	**4,037**	**7,913**	8,074,000	15,826,000
Dry Storage Spaces	1,431	2,480	1,398	2,345	2,280	4,630	**5,109**	**9,455**	7,663,500	14,182,500
Wet Storage Spaces	—	—	—	635	1,339	4,589	**1,339**	**5,224**	40,170,000	156,7020,000
Total Construction Costs									$69,307,500	$212,928,500

Table 3.15
Central Valley and Eastern Sierra — Additional Facilities Needs Through 2020

	2001 to 2005		2006 to 2010		2011 to 2020		Total		Construction Costs	
	Low	High	Low	High	Low	High	Low	High	Low	High
Launch ramp lanes	42	51	42	51	83	106	**167**	**208**	$16,700,000	$20,800,000
Parking for cars with trailers	1,632	1,977	1,638	1,991	3,205	4,099	**6,475**	**8,067**	12,950,000	16,134,000
Dry storage spaces	2,078	2,535	2,313	2,787	4,712	5,937	**9,103**	**11,259**	13,654,500	16,888,500
Wet storage spaces	—	—	847	1,195	3,402	3,112	**4,249**	**4,307**	127,470,000	129,210,000
Total Construction Costs									$170,774,500	$183,032,500

8. *Central Valley and Eastern Sierra Regions*

Combined results for the Central Valley and Eastern Sierra regions are shown in **Table 3.15**. Survey responses suggest that nearly half the users of Eastern Sierra waterways live in the adjacent Central Valley Region. When launching supply and demand figures for the two regions are combined, we found 353 launching ramp lanes useable at any one time in the region, served by 13,665 car-with-trailer parking spaces. Survey responses indicate that current launching demand by residents is 3.8 million launches per year, or 30 launches per lane per day, below the state average. Parking is used by residents at a rate of 0.8 launches per space per day, also below the state average. Actual use of ramps and parking is higher than these rates suggest, with many boaters traveling from the South Coast Region: one-quarter of Central Valley facilities and one-third of Eastern Sierra facilities reach capacity more than 15 days per year. To maintain this level of service, resident demand growth will require an additional 167 to 208 launching ramp lanes and 6,475 to 8,067 additional car and trailer parking spaces by 2020. Additional launching demand will arise as the expected congestion of Southern California facilities displaces significant numbers of southern boaters northward.

Almost 18,000 boats owned by residents of the two regions are dry stored off their owners' property. A total of 1,291 boats are in dry storage at the regions' boating facilities, which have capacity for a total of 2,455. We project demand for 9,103 to 11,259 additional dry storage spaces by 2020.

There are 9,908 wet storage berths and moorings in the region, of which an estimated 8,413, or 84.7 percent, are occupied. Allowing for a five percent normal vacancy rate, surplus capacity will probably be absorbed by 2006. Approximately 4,249 to 4,307 new wet storage berths or moorings will be needed in the two regions by 2020.

The total estimated construction costs for new facilities in these two regions ranges from $171 million to $183 million through 2020.

Chapter 3 Appendix

A. Historical Boat Ownership/ DMV Data

1. Updated 1999 and 2001 Boat Population Estimates

Beginning in 1998, the California Department of Motor Vehicles (DMV) changed from a one-year to a two-year vessel registration cycle. All vessel registrations now expire on December 31 of even numbered years. Consequently the DMV year-end boat population counts for odd-numbered years beginning in 1999 contain large numbers of boats that are no longer in use, but still nominally registered, and only the even-numbered year counts are comparable with the published statistics for 1998 and earlier. Estimates of boats actually in use for December 31 of 1999 and 2001 were prepared using the prior year-end total, adding actual numbers of boat registrations issued during those years and subtracting the estimated number of boats likely to have been removed from service based on trends from prior years.

The calculations, shown in **Table 1**, give a December 2001 population of 931,636 registered and documented boats. A historical comparison of registration activity with year-end counts, however, reveals a wide discrepancy in apparent year-to-year attrition rates. DMV staff explained that this was largely due to differences from year-to-year in administrative procedures such as the date at which renewal notices were sent and the rate with which renewal orders could be fulfilled at prevailing staffing levels: in different years varying numbers of renewals were entered too late for the year-end count. Consequently we determined that the 2001 estimate is not sufficiently reliable to serve as an updated base year for forecasts; the earliest reliable new data will be released in early 2003 for registration counts as of December 31, 2002.

B. Alternative Models and Model Selection for Statewide Forecast

Several alternative models of boat population growth were evaluated by comparing their predictions for the historical period 1985 to 2000, and by examining their forecasts through 2020. While rejected for the final projections, these models are shown here as a resource for future modeling efforts. The models' results and R-squared statistics (which measures the percentage of total variance in the number of boats that the model accounts for) are shown in **Table 2** and **Exhibit 1**.

1. Baseline Model: The Straight-Line Fit

The simplest model, a least-squares straight-line fit to the empirical trend in total boat population (y=ax+b, where y is the number of boats, x is the year and a and b are regression coefficients), explains 95.7 percent of the variance in boat populations at five-year intervals for 1985 to 2000, but is intuitively unsatisfying because it does not reproduce the progressive flattening of growth rates that occurred during that period, and therefore seems destined to produce exaggerated forecasts (**Exhibit 1a**).

2. *Alternative Predictors: Personal Income, Population, and Age*

Personal income shows little correlation since 1985 with boat ownership at the state level (nor with the unexplained variance between reality and the baseline model), and was therefore not used in any model. (Income showed a strong negative correlation with boat ownership at the county level in the 1996 Statewide Boating Needs Study, probably because it served as a proxy for urbanization. Regional stratification of the model did a better job.) A model based on constant age-specific rates of boat ownership matched the flattening of growth rates and when applied to individual boat types produced some interesting insights into the sociology of PWC ownership (which may peak sharply for the "midlife crisis" age bracket of 40 to 45), but was not as good as the straight-line model in matching actual boat numbers, though it explained 90.9 percent of their variance. The age model was refined by allowing the rates to vary consistently with time, but it remained weaker than the simple trend model (**Exhibit 1b to 1d**).

C. Detailed Model Results and Tables

The seven tables, **Tables 3 to 9** provide background to the regional per capita ownership trends model used to develop the boating population projections.

D. Statewide Facilities Needs Forecasts Summary Tables

The two tables, **Tables 10 and 11,** provide regional data; facility type, for facilities needs and construction costs through 2020.

E. Regional Facilities Needs Background Tables

The set of tables, **Tables 12 to 23**, one for each of the ten regions plus the two combined regions, South Coast and Southern Interior and Central Valley and Eastern Sierra, provide the background and calculations for the regional facilities demand and facilities needs projections.

F. Recommended Ongoing Monitoring and Forecasting Program

The regional boat ownership forecasts can be updated any time new editions of any of its source data become available. The main data inputs are presently scheduled to be renewed as follows:

1. California DMV, *Report RID 6714, Year-End Boat Registration Report*: Usable counts become available every two years, beginning late January 2003.

2. U.S. MARAD, *Merchant Vessels of the U.S.* (ASCII file on CD-ROM): Quarterly; December 31 appears mid-February

3. California Department of Finance, Report E-1, *County Population Estimates for January 1*: Annual, published in May

4. California Department of Finance, Report P-1, *Interim County Population Projections*: Last published June 2001, update unscheduled

5. California DMV, Boat Registration Data Tapes, custom output.

In order to facilitate verification of the regional boat ownership forecasts, a table of state and regional forecasts has been prepared for December 31, 2002, 2004, etc. through 2010 in a form that parallels the DMV year-end reports (**Tables 24 and 25**). We recommend that the DBW compare the model's predictions with DMV and MARAD boat ownership data in February of every other year beginning February 2003. A table of adjustments can be prepared after each review. Major unexpected developments (such as the sudden growth or decline of numbers of a particular type of boat in a particular region) should be evaluated for their policy and methodological implications.

The boat ownership forecasts themselves can easily be rerun whenever new county population forecasts (Report P-1) are published. Every few years the forecasting equations could be recalibrated against current and historical data.

Table 1
Estimates of 1999 and 2001, Year-End Boat Populations

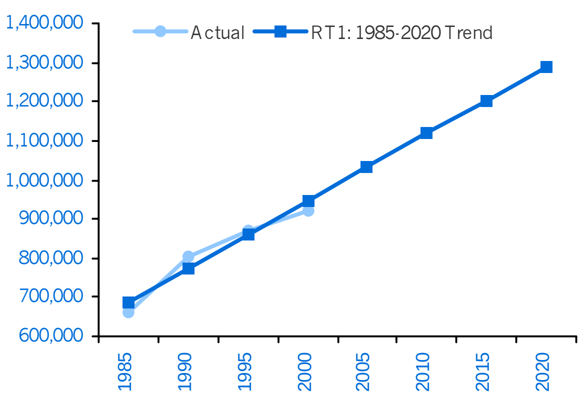
	Dec-94	Dec-95	Dec-96	Dec-97	Dec-98	Dec-99	Dec-00	Dec-01
DMV Published Year-End Total	839,049	858,369	878,807	892,103	892,288	952,403	902,774	965,786
DMV Registration Activity During Calendar Year								
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	
Original	52,706	53,239	47,937	42,039	37,348	37,950	40,235	—
Nonresident	3,750	4,188	4,521	4,493	5,154	5,591	5,654	—
Renewal	820,807	839,331	808,894	192,340	695,677	177,861	647,722	—
Total	**877,263**	**896,758**	**861,352**	**238,872**	**738,179**	**221,402**	**693,611**	**—**
1-yr renewal rate	97.8%	97.8%	92.0%	21.6%	78.0%	18.7%	71.7%	—
2-yr renewal rate	—	—	—	—	99.5%		86.7%	—
Annualized 2-yr rate	—	—	—	99.8%	99.8%	93.1%	93.1%	—
Actual attrition rate	2.2%	2.2%	8.0%	78.4%	22.0%	81.3%	28.3%	—
Documented boats growth rate	—	0.9%	0.9%	0.9%	4.9%	14.4%	12.6%	-6.7%
Simulation Model	***(assumes unrenewed boats go out of service at annualized rate: Dec 98 and Dec 2000 are "real")***							
Assumptions								
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Attrition rate	2.2%	2.2%	8.0%	4.7%	4.7%	4.0%	4.0%	4.0%
New registrations	—	—	—	—	—	—	—	46,000
Documented boats growth rate	—	—	—	—	—	—	—	5.0%
Calculations								
Beginning total	839,049	858,369	878,807	892,103	892,288	***897,271***	902,774	***910,405***
Attrition rate	2.2%	2.2%	8.0%	4.7%	4.7%	4.0%	4.0%	4.0%
Attrition	(18,242)	(19,038)	(69,913)	(41,929)	(41,938)	(35,891)	(36,111)	(36,416)
Original+nonresident	56,456	57,427	52,458	46,532	42,502	43,541	45,889	46,000
Subtotal	877,263	896,758	861,352	896,706	892,852	904,921	912,552	919,989
Late renewals adjustment	(18,894)	(17,951)	30,751	(4,418)	4,418	2,147	(2,147)	—
Year-End Total	**858,369**	**878,807**	**892,103**	**892,288**	***897,271***	**902,774**	***910,405***	***919,989***
Summary of Results	**Dec-94**	**Dec-95**	**Dec-96**	**Dec-97**	**Dec-98**	**Dec-99**	**Dec-00**	**Dec-01**
Registered Boats	839,049	858,369	878,807	892,103	892,288	897,271	902,774	910,405
Documented Boats	16,413	16,563	16,714	16,864	17,682	20,221	22,759	21,231
Total	**855,462**	**874,932**	**895,521**	**908,967**	**909,970**	**917,491**	**925,533**	**931,636**
Annual growth		2.3%	2.4%	1.5%	0.1%	0.8%	0.9%	0.7%

Table 2
Comparison of Model Results
Model Backcasts and Forecasts, 1985 to 2020

	<———Backcast Values				Forecast Values———>				
	1985	1990	1995	2000	2005	2010	2015	2020	RSQ
Actual	**660,880**	**805,055**	**871,008**	**923,163**					
RT1: 1985-2000 Trend	688,077	773,968	859,859	945,750	1,031,641	1,117,532	1,203,423	1,289,314	94.0%
A1: Constant Age-Specific Ownership Rates	637,581	725,759	805,992	923,163	1,042,008	1,185,748	1,284,395	1,383,042	90.9%
A2: Age-Specific Ownership Rates Fit 15-Year Trend	686,898	771,865	846,054	956,290	1,064,996	1,195,518	1,275,862	1,356,205	91.2%
A3: Age-specific ownership rates decline as for 1990:2000	747,607	811,354	857,018	931,175	994,127	1,066,486	1,079,656	1,092,826	92.6%
RP1: 1985-2000 Per Capita Trends by Region	671,171	796,978	857,270	940,814	1,050,822	1,159,376	1,223,298	1,287,220	98.3%
RP2: 1990-2000 Per Capita Trends by Region	695,185	812,469	861,293	932,211	1,027,750	1,120,322	1,168,139	1,215,956	98.8%
RP3: 1995-2000 Per Capita Trends by Region	734,565	841,544	873,643	925,559	998,379	1,064,368	1,084,455	1,104,542	99.3%

Exhibit 1
Comparison of Model Results

a. Model RT1



b. Model A1

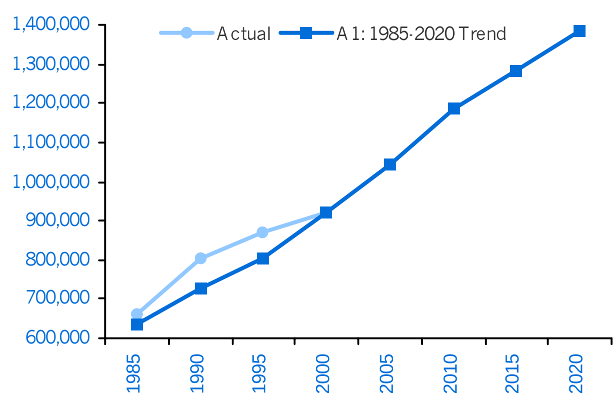
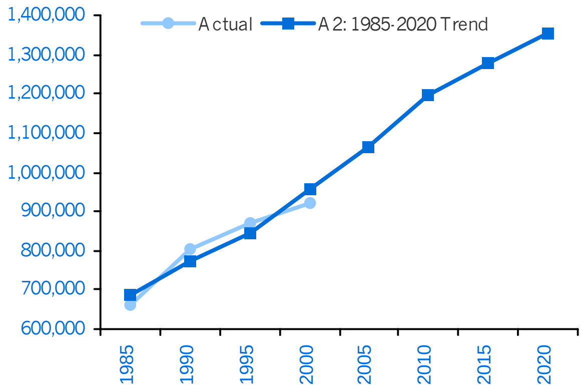
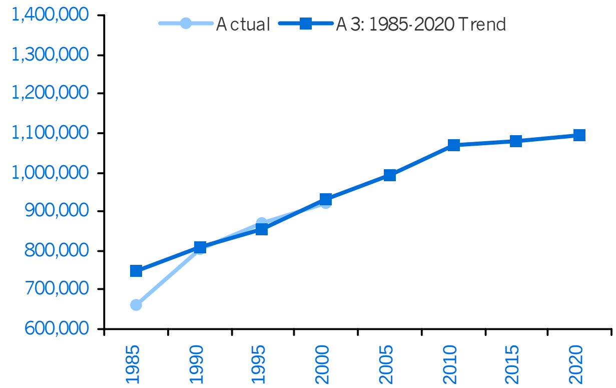


Exhibit 1 ***(cont.)***

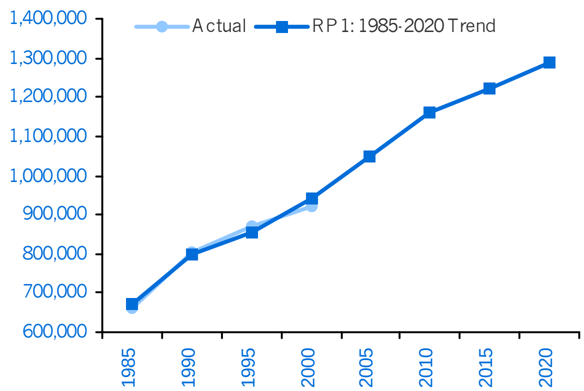
c. Model A2



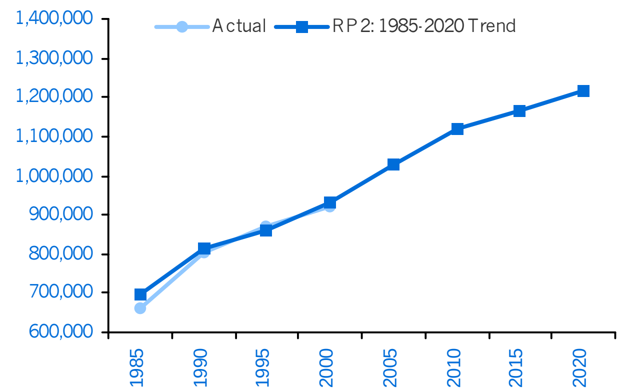
d. Model A3



e. Model RP1



f. Model RP2



g. Model RP3

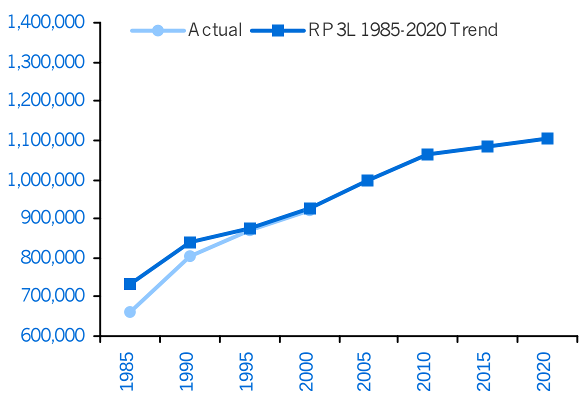


Table 3
Baseline Vessel Populations, 1985 to 2000

Boats Registered with DMV per RID6714

Region	12/31/85	12/31/90	12/31/95	12/31/00
1. North Coast	20,442	28,333	33,120	33,806
2. San Francisco Bay	134,778	153,192	154,514	152,987
3. Central Coast	19,650	23,776	26,559	29,698
4. South Coast	188,495	222,751	229,622	237,259
5. San Diego	44,033	56,363	59,628	65,000
6. Northern Interior	5,121	6,475	7,283	7,789
7. Sacramento Basin	110,415	136,090	151,601	159,523
8. Central Valley	80,090	95,649	109,235	116,949
9. Eastern Sierra	2,030	2,257	2,786	2,933
10. Southern Interior	45,396	68,850	83,779	96,503
11. Out of State	2,036	1,599	2,635	2,396
Total	**652,486**	**795,335**	**860,762**	**904,843**

Boats Registered with DMV per Data Base

Region	12/31/85	12/31/90	12/31/95	12/31/00
1. North Coast	22,094	28,110	30,564	33,855
2. San Francisco Bay	98,274	129,963	142,005	155,528
3. Central Coast	18,737	23,738	25,411	28,672
4. South Coast	130,072	186,860	212,906	234,769
5. San Diego	37,584	52,055	56,482	61,684
6. Northern Interior	5,664	6,829	7,010	7,768
7. Sacramento Basin	99,813	126,015	134,168	148,577
8. Central Valley	73,749	91,698	99,482	111,785
9. Eastern Sierra	2,120	2,617	2,317	2,475
10. Southern Interior	44,028	64,418	75,085	84,177
11. Out of State	8,515	11,783	11,080	4,724
Total	**540,650**	**724,086**	**796,510**	**874,014**

Correction Factor

Region	12/31/85	12/31/90	12/31/95	12/31/00
1. North Coast	0.92522857	1.00793312	1.0836278	0.99855265
2. San Francisco Bay	1.37145125	1.17873549	1.08808845	0.98366211
3. Central Coast	1.04872712	1.00160081	1.04517729	1.03578404
4. South Coast	1.44915893	1.19207428	1.07851352	1.01060617
5. San Diego	1.17158897	1.08275862	1.05569916	1.05375786
6. Northern Interior	0.90413136	0.94816225	1.03894437	1.0027034
7. Sacramento Basin	1.10621863	1.0799508	1.12993411	1.07367224
8. Central Valley	1.08598083	1.04308709	1.09803784	1.04619582
9. Eastern Sierra	0.95754717	0.86243791	1.20241692	1.18505051
10. Southern Interior	1.03107114	1.06880065	1.11578877	1.14642955
11. Out of State	0.23910746	0.13570398	0.23781588	0.50719729
Total	**1.20685471**	**1.09839853**	**1.08066691**	**1.03527289**

Boats Documented with DOT as of

Region	12/31/85	12/31/90	12/31/95	12/31/00
1. North Coast	621	679	710	836
2. San Francisco Bay	2,160	2,902	3,281	5,236
3. Central Coast	575	662	709	919
4. South Coast	2,901	4,184	4,864	8,121
5. San Diego	1,292	1,713	1,933	3,232
6. Northern Interior	8	13	14	15
7. Sacramento Basin	349	486	566	967
8. Central Valley	240	318	364	603
9. Eastern Sierra	9	11	11	18
10. Southern Interior	239	351	429	769
11. Out of State	—	—	—	—
Total	**8,394**	**11,319**	**12,881**	**20,716**

Boats Registered or Documented as of

Region	12/31/85	12/31/90	12/31/95	12/31/00
1. North Coast	21,063	29,012	33,830	34,642
2. San Francisco Bay	136,938	156,094	157,795	158,223
3. Central Coast	20,225	24,438	27,268	30,617
4. South Coast	191,396	226,935	234,486	245,380
5. San Diego	45,325	58,076	61,561	68,232
6. Northern Interior	5,129	6,488	7,297	7,804
7. Sacramento Basin	110,764	136,576	152,167	160,490
8. Central Valley	80,330	95,967	109,599	117,552
9. Eastern Sierra	2,039	2,268	2,797	2,951
10. Southern Interior	45,635	69,201	84,208	97,272
11. Out of State	2,036	1,599	2,635	2,396
Total	**660,880**	**806,654**	**873,643**	**925,559**
Instate	**658,844**	**805,055**	**871,008**	**923,163**

Table 4
Vessels Per Capita Models

*Actual Boats per Capita*1,000 as of*

Region	1985	1990	1995	2000
1. North Coast	38.77	45.62	50.24	48.65
2. San Francisco Bay	25.86	26.93	26.14	24.46
3. Central Coast	27.74	29.31	32.08	33.18
4. South Coast	16.75	17.79	17.93	17.64
5. San Diego	21.09	22.43	23.12	23.66
6. Northern Interior	68.14	77.89	84.41	86.90
7. Sacramento Basin	57.48	58.86	61.22	59.62
8. Central Valley	31.96	31.63	33.01	32.82
9. Eastern Sierra	73.11	74.51	88.48	90.19
10. Southern Interior	22.19	24.14	26.54	27.60

*Model RP1: 1985 to 2000 Trend, Vessels Per Capita * 1,000*

	1985	1990	1995	2000	2005	2010	2015	2020	Slope	Intercept	Backcast RSQ
1. North Coast	40.68	44.11	47.53	50.96	54.39	57.82	61.24	64.67	0.6855	-1320	76.0%
2. San Francisco Bay	26.60	26.10	25.60	25.10	24.60	24.10	23.60	23.10	-0.09979	224.687	39.2%
3. Central Coast	27.71	29.62	31.53	33.44	35.35	37.26	39.17	41.08	0.38202	-730.61	97.5%
4. South Coast	17.11	17.39	17.67	17.95	18.23	18.51	18.79	19.07	0.05604	-94.138	46.3%
5. San Diego	21.32	22.16	23.00	23.84	24.68	25.52	26.36	27.20	0.16813	-312.42	95.4%
6. Northern Interior	69.91	76.19	82.47	88.76	95.04	101.32	107.60	113.89	1.25644	-2424.1	93.7%
7. Sacramento Basin	57.98	58.86	59.74	60.62	61.50	62.37	63.25	64.13	0.17581	-291.01	52.9%
8. Central Valley	31.76	32.16	32.55	32.95	33.34	33.74	34.13	34.53	0.07888	-124.82	58.9%
9. Eastern Sierra	71.79	78.31	84.83	91.36	97.88	104.40	110.92	117.44	1.3044	-2517.4	87.3%
10. Southern Interior	22.33	24.19	26.05	27.91	29.77	31.63	33.49	35.35	0.37223	-716.56	98.0%

*Model RP3: 1995 to 2000 Trend, Vessels Per Capita * 1,000*

	1985	1990	1995	2000	2005	2010	2015	2020	Slope	Intercept	Backcast RSQ
1. North Coast	53.40	51.82	50.24	48.65	47.07	45.49	43.91	42.32	-0.31662	681.897	76.0%
2. San Francisco Bay	29.50	27.82	26.14	24.46	22.78	21.10	19.41	17.73	-0.33633	697.125	39.2%
3. Central Coast	29.88	30.98	32.08	33.18	34.28	35.39	36.49	37.59	0.22039	-407.6	97.5%
4. South Coast	18.51	18.22	17.93	17.64	17.35	17.06	16.76	16.47	-0.0583	134.238	46.3%
5. San Diego	22.05	22.59	23.12	23.66	24.20	24.74	25.28	25.81	0.1076	-191.53	95.4%
6. Northern Interior	79.41	81.91	84.41	86.90	89.40	91.90	94.40	96.89	0.49941	-911.92	93.7%
7. Sacramento Basin	64.42	62.82	61.22	59.62	58.03	56.43	54.83	53.23	-0.31971	699.052	52.9%
8. Central Valley	33.39	33.20	33.01	32.82	32.63	32.44	32.25	32.06	-0.03782	108.457	58.9%
9. Eastern Sierra	85.07	86.78	88.48	90.19	91.89	93.60	95.30	97.01	0.34097	-591.74	87.3%
10. Southern Interior	24.41	25.47	26.54	27.60	28.66	29.72	30.79	31.85	0.21249	-397.38	98.0%

Table 4 *(cont.)*

Baseline Population Estimates and Forecasts, 1985 to 2020

Department of Finance Population Estimates and Forecasts (Thousands)

	1985	1990	1995	2000	2005	2010	2015	2020
1. North Coast	543	636	673	712	778	835	882	930
2. San Francisco Bay	5,295	5,797	6,036	6,469	6,913	7,253	7,469	7,757
3. Central Coast	729	834	850	923	1,027	1,133	1,237	1,357
4. South Coast	11,426	12,755	13,077	13,911	14,652	15,347	15,938	16,817
5. San Diego	2,149	2,590	2,662	2,884	3,177	3,416	3,619	3,891
6. Northern Interior	75	83	86	90	97	104	109	115
7. Sacramento Basin	1,927	2,320	2,485	2,692	3,021	3,319	3,574	3,852
8. Central Valley	2,513	3,034	3,320	3,582	4,029	4,493	4,930	5,434
9. Eastern Sierra	28	30	32	33	35	36	38	40
10. Southern Interior	2,056	2,866	3,173	3,525	4,083	4,664	5,255	5,968
Total	**26,742**	**30,945**	**32,396**	**34,818**	**37,812**	**40,601**	**43,050**	**46,160**

Model RP1: Vessel Backcast and Forecast (High)

	1985	1990	1995	2000	2005	2010	2015	2020
1. North Coast	22,101	28,049	32,009	36,285	42,293	48,300	57,008	60,151
2. San Francisco Bay	140,827	151,283	154,514	162,357	170,069	174,806	172,547	179,219
3. Central Coast	20,205	24,702	26,802	30,857	36,292	42,214	50,835	55,749
4. South Coast	195,469	221,787	231,056	249,684	267,095	284,069	303,929	320,691
5. San Diego	45,805	57,373	61,222	68,738	78,407	87,164	98,426	105,830
6. Northern Interior	5,263	6,347	7,130	7,970	9,228	10,517	12,448	13,086
7. Sacramento Basin	111,726	136,562	148,475	163,161	185,777	207,021	229,216	247,013
8. Central Valley	79,828	97,566	108,086	118,010	134,340	151,567	170,195	187,606
9. Eastern Sierra	2,002	2,384	2,682	2,989	3,379	3,781	4,442	4,653
10. Southern Interior	45,910	69,326	82,660	98,367	121,545	147,540	185,779	211,000
11. Out of State*	2,036	1,599	2,635	2,396	2,396	2,396	2,396	2,396
Total	**671,171**	**796,978**	**857,270**	**940,814**	**1,050,822**	**1,159,376**	**1,287,220**	**1,387,393**

Model RP3: Vessel Backcast and Forecast (Low)

	1985	1990	1995	2000	2005	2010	2015	2020
1. North Coast	29,014	32,955	33,830	34,642	36,603	38,001	38,702	39,364
2. San Francisco Bay	156,231	161,291	157,795	158,223	157,474	153,015	145,001	137,563
3. Central Coast	21,783	25,833	27,268	30,617	35,196	40,089	45,150	51,009
4. South Coast	211,531	232,425	234,486	245,380	254,185	261,772	267,196	277,030
5. San Diego	47,379	58,487	61,561	68,232	76,888	84,498	91,464	100,437
6. Northern Interior	5,978	6,823	7,297	7,804	8,681	9,539	10,317	11,133
7. Sacramento Basin	124,137	145,757	152,167	160,490	175,295	187,281	195,962	205,019
8. Central Valley	83,906	100,719	109,599	117,552	131,474	145,749	158,991	174,228
9. Eastern Sierra	2,373	2,642	2,797	2,951	3,172	3,390	3,604	3,843
10. Southern Interior	50,198	73,014	84,208	97,272	117,015	138,640	161,774	190,077
11. Out of State*	2,036	1,599	2,635	2,396	2,396	2,396	2,396	2,396
Total	**734,565**	**841,544**	**873,643**	**925,559**	**998,379**	**1,064,368**	**1,120,558**	**1,192,101**

* Out of State assumed constant at year 2000 level.

Table 5
Distribution of Boat Types within Regions, 1985 to 2000

Region	Type	1985	1990	1995	2000
North Coast	<16′ Jet	1.3%	3.5%	5.7%	5.4%
	<16′ Other	47.9%	45.6%	43.5%	44.3%
	16-19′	33.5%	34.1%	33.5%	31.6%
	20-25′	10.7%	11.2%	12.3%	13.3%
	26-39′	4.9%	4.2%	3.7%	3.9%
	40′ +	1.8%	1.4%	1.3%	1.5%
	Total	**100%**	**100%**	**100%**	**100%**
San Francisco Bay	<16′ Jet	2.5%	6.3%	9.6%	10.5%
	<16′ Other	39.2%	36.4%	34.6%	33.3%
	16-19′	34.2%	33.8%	32.0%	29.8%
	20-25′	12.2%	12.9%	14.1%	16.1%
	26-39′	9.7%	8.6%	7.8%	8.0%
	40′ +	2.2%	2.1%	2.0%	2.3%
	Total	**100%**	**100%**	**100%**	**100%**
Central Coast	<16′ Jet	2.0%	4.7%	7.9%	8.9%
	<16′ Other	40.0%	37.8%	35.4%	34.7%
	16-19′	36.8%	36.8%	35.5%	33.2%
	20-25′	12.5%	12.9%	14.1%	16.2%
	26-39′	6.9%	6.1%	5.6%	5.5%
	40′ +	1.7%	1.6%	1.5%	1.6%
	Total	**100%**	**100%**	**100%**	**100%**
South Coast	<16′ Jet	5.2%	13.6%	20.2%	21.1%
	<16′ Other	35.7%	32.9%	30.8%	30.9%
	16-19′	34.0%	30.4%	26.7%	24.0%
	20-25′	14.0%	13.5%	13.8%	15.0%
	26-39′	9.3%	7.9%	6.8%	7.0%
	40′ +	1.9%	1.8%	1.7%	2.0%
	Total	**100%**	**100%**	**100%**	**100%**
San Diego	<16′ Jet	3.0%	8.5%	13.4%	15.1%
	<16′ Other	39.4%	37.0%	35.5%	33.9%
	16-19′	31.4%	30.4%	28.0%	26.2%
	20-25′	13.4%	13.0%	13.1%	14.1%
	26-39′	10.4%	8.8%	7.8%	8.1%
	40′ +	2.4%	2.3%	2.2%	2.6%
	Total	**100%**	**100%**	**100%**	**100%**
Northern Interior	<16′ Jet	0.7%	1.5%	2.5%	3.2%
	<16′ Other	64.1%	59.7%	56.8%	57.2%
	16-19′	28.0%	30.8%	31.9%	30.6%
	20-25′	5.7%	6.4%	7.3%	7.6%
	26-39′	1.1%	1.0%	1.1%	1.0%
	40′ +	0.4%	0.5%	0.4%	0.4%
	Total	**100%**	**100%**	**100%**	**100%**
Sacramento Basin	<16′ Jet	1.4%	3.2%	4.9%	5.3%
	<16′ Other	51.8%	48.0%	45.3%	44.5%
	16-19′	34.3%	35.5%	35.3%	34.0%
	20-25′	8.6%	9.6%	10.8%	12.4%
	26-39′	2.9%	2.8%	2.6%	2.7%
	40′ +	1.1%	1.0%	1.0%	1.1%
	Total	**100%**	**100%**	**100%**	**100%**
Central Valley	<16′ Jet	1.7%	4.8%	7.7%	8.4%
	<16′ Other	46.8%	42.9%	40.7%	40.6%
	16-19′	38.8%	38.9%	37.2%	34.7%
	20-25′	9.1%	9.9%	11.2%	12.7%
	26-39′	3.0%	2.9%	2.6%	2.8%
	40′ +	0.6%	0.6%	0.6%	0.8%
	Total	**100%**	**100%**	**100%**	**100%**
Southern Interior	<16′ Jet	5.9%	16.2%	22.8%	23.5%
	<16′ Other	36.7%	30.9%	29.1%	30.0%
	16-19′	42.1%	37.2%	31.8%	28.2%
	20-25′	11.9%	12.7%	13.6%	15.5%
	26-39′	2.9%	2.5%	2.2%	2.2%
	40′ +	0.6%	0.5%	0.5%	0.5%
	Total	**100%**	**100%**	**100%**	**100%**
Eastern Sierra	<16′ Jet	2.7%	7.7%	11.3%	12.7%
	<16′ Other	54.5%	49.7%	48.5%	48.4%
	16-19′	33.5%	32.5%	30.2%	27.8%
	20-25′	7.1%	7.7%	8.3%	9.3%
	26-39′	1.8%	1.8%	1.4%	1.3%
	40′ +	0.4%	0.5%	0.4%	0.5%
	Total	**100%**	**100%**	**100%**	**100%**
Out of State	<16′ Jet	2.8%	7.4%	11.0%	9.6%
	<16′ Other	38.6%	36.4%	36.5%	35.5%
	16-19′	31.6%	30.9%	28.0%	20.9%
	20-25′	12.9%	13.4%	13.5%	14.9%
	26-39′	11.7%	9.8%	9.2%	15.1%
	40′ +	2.4%	2.0%	1.9%	4.0%
	Total	**100%**	**100%**	**100%**	**100%**
State*Type	<16′ Jet	3.4%	8.5%	12.8%	13.7%
	<16′ Other	41.5%	38.3%	36.3%	35.9%
	16-19′	35.0%	33.8%	31.6%	29.3%
	20-25′	11.7%	12.0%	12.8%	14.3%
	26-39′	6.9%	5.9%	5.1%	5.3%
	40′ +	1.6%	1.5%	1.4%	1.6%
	Total	**100%**	**100%**	**100%**	**100%**

Table 6
Low Series (RP-3) Forecasts of Boats, by Type and Region

Region	Type	2000	2005	2010	2015	2020
1. North Coast	<16′ Jet	1,872	2,107	2,365	2,538	2,681
	<16′ Other	15,355	16,010	16,481	16,692	16,913
	16-19′	10,949	11,806	12,031	12,024	11,996
	20-25′	4,623	4,857	5,400	5,866	6,340
	26-39′	1,341	1,334	1,254	1,144	1,028
	40′ +	503	489	469	438	405
	Total	**34,642**	**36,603**	**38,001**	**38,702**	**39,364**
2. San Francisco Bay	<16′ Jet	16,594	16,486	17,400	17,459	17,290
	<16′ Other	52,646	52,954	50,790	47,787	45,181
	16-19′	47,103	47,619	44,165	39,865	35,928
	20-25′	25,504	24,886	26,320	27,008	27,619
	26-39′	12,708	12,093	10,932	9,582	8,348
	40′ +	3,669	3,436	3,408	3,299	3,197
	Total	**158,223**	**157,474**	**153,015**	**145,001**	**137,563**
3. Central Coast	<16′ Jet	2,710	3,037	3,761	4,485	5,285
	<16′ Other	10,619	12,284	13,815	15,442	17,370
	16-19′	10,154	11,896	13,104	14,261	15,548
	20-25′	4,947	5,554	6,835	8,280	10,019
	26-39′	1,697	1,887	1,978	2,035	2,079
	40′ +	490	539	594	648	708
	Total	**30,617**	**35,196**	**40,089**	**45,150**	**51,009**
4. South Coast	<16′ Jet	51,684	55,480	63,343	70,165	78,067
	<16′ Other	75,815	78,498	81,584	84,834	90,188
	16-19′	58,976	60,997	55,363	48,661	41,882
	20-25′	36,732	37,416	40,463	43,543	47,734
	26-39′	17,181	16,856	15,686	14,262	12,887
	40′ +	4,992	4,938	5,332	5,730	6,273
	Total	**245,380**	**254,185**	**261,772**	**267,196**	**277,030**
5. San Diego	<16′ Jet	10,335	11,521	13,970	16,266	18,947
	<16′ Other	23,155	26,631	29,276	31,924	35,477
	16-19′	17,866	20,364	21,190	21,655	22,348
	20-25′	9,588	10,602	12,025	13,464	15,317
	26-39′	5,536	5,875	5,885	5,743	5,600
	40′ +	1,752	1,895	2,152	2,413	2,748
	Total	**68,232**	**76,888**	**84,498**	**91,464**	**100,437**
6. Northern Interior	<16′ Jet	253	257	303	342	378
	<16′ Other	4,463	4,891	5,249	5,558	5,882
	16-19′	2,388	2,742	3,067	3,369	3,686
	20-25′	592	669	790	912	1,043
	26-39′	76	86	92	96	100
	40′ +	32	35	38	40	43
	Total	**7,804**	**8,681**	**9,539**	**10,317**	**11,133**
7. Sacramento Basin	<16′ Jet	8,571	9,328	10,672	11,643	12,512
	<16′ Other	71,352	77,607	80,850	82,825	85,057
	16-19′	54,638	60,570	64,075	66,321	68,599
	20-25′	19,866	21,403	25,056	28,445	32,032
	26-39′	4,361	4,601	4,736	4,766	4,788
	40′ +	1,702	1,787	1,892	1,961	2,031
	Total	**160,490**	**175,295**	**187,281**	**195,962**	**205,019**
8. Central Valley	<16′ Jet	9,875	11,026	13,281	15,316	17,471
	<16′ Other	47,754	52,933	57,815	62,441	67,954
	16-19′	40,767	46,466	49,554	51,918	54,545
	20-25′	14,956	16,530	20,139	23,958	28,445
	26-39′	3,284	3,555	3,836	4,070	4,334
	40′ +	916	964	1,124	1,288	1,479
	Total	**117,552**	**131,474**	**145,749**	**158,991**	**174,228**
9. Eastern Sierra	<16′ Jet	374	403	471	534	599
	<16′ Other	1,428	1,524	1,623	1,729	1,853
	16-19′	820	897	902	898	892
	20-25′	275	293	341	394	454
	26-39′	40	42	38	34	29
	40′ +	14	14	15	16	17
	Total	**2,951**	**3,172**	**3,390**	**3,604**	**3,843**
10. Southern Interior	<16′ Jet	22,888	28,943	37,983	48,069	60,581
	<16′ Other	29,182	34,057	40,342	47,625	57,070
	16-19′	27,468	32,938	33,334	31,999	29,031
	20-25′	15,040	17,964	23,542	30,364	39,388
	26-39′	2,166	2,495	2,708	2,865	3,004
	40′ +	528	618	730	852	1,003
	Total	**97,272**	**117,015**	**138,640**	**161,774**	**190,077**
11. Instate subtotal	<16′ Jet	125,156	138,587	163,550	186,819	213,811
	<16′ Other	331,769	357,391	377,824	396,857	422,945
	16-19′	271,129	296,295	296,786	290,971	284,456
	20-25′	132,121	140,172	160,911	182,233	208,392
	26-39′	48,389	48,823	47,145	44,598	42,198
	40′ +	14,599	14,715	15,756	16,684	17,904
	Total	**923,163**	**995,983**	**1,061,972**	**1,118,162**	**1,189,705**
12. Out of State	<16′ Jet	229	229	229	229	229
	<16′ Other	851	851	851	851	851
	16-19′	501	501	501	501	501
	20-25′	358	358	358	358	358
	26-39′	361	361	361	361	361
	40′ +	95	95	95	95	95
	Total	**2,396**	**2,396**	**2,396**	**2,396**	**2,396**
Total	<16′ Jet	125,385	138,817	163,779	187,048	214,040
	<16′ Other	332,620	358,242	378,675	397,708	423,796
	16-19′	271,630	296,796	297,287	291,472	284,957
	20-25′	132,479	140,530	161,269	182,591	208,750
	26-39′	48,751	49,184	47,507	44,959	42,559
	40′ +	14,694	14,810	15,851	16,780	17,999
	Total	**925,559**	**998,379**	**1,064,368**	**1,120,558**	**1,192,101**

Table 7
High Series (RP-1) Forecasts of Boats, by Type and Region

Region	Type	2000	2005	2010	2015	2020
1. North Coast	<16′ Jet	1,872	2,435	3,007	3,541	4,097
	<16′ Other	15,355	18,499	20,948	23,284	25,845
	16-19′	10,949	13,641	15,292	16,772	18,332
	20-25′	4,623	5,612	6,864	8,182	9,688
	26-39′	1,341	1,541	1,594	1,596	1,571
	40′ +	503	565	596	611	619
	Total	**34,642**	**42,293**	**48,300**	**53,987**	**60,151**
2. San Francisco Bay	<16′ Jet	16,594	17,804	19,878	21,225	22,525
	<16′ Other	52,646	57,190	58,023	58,094	58,862
	16-19′	47,103	51,427	50,455	48,463	46,808
	20-25′	25,504	26,876	30,068	32,833	35,983
	26-39′	12,708	13,060	12,489	11,649	10,876
	40′ +	3,669	3,711	3,894	4,010	4,165
	Total	**158,223**	**170,069**	**174,806**	**176,273**	**179,219**
3. Central Coast	<16′ Jet	2,710	3,132	3,961	4,815	5,776
	<16′ Other	10,619	12,667	14,548	16,578	18,984
	16-19′	10,154	12,266	13,799	15,310	16,993
	20-25′	4,947	5,727	7,198	8,889	10,950
	26-39′	1,697	1,946	2,083	2,184	2,272
	40′ +	490	555	626	696	774
	Total	**30,617**	**36,292**	**42,214**	**48,472**	**55,749**
4. South Coast	<16′ Jet	51,684	58,298	68,738	78,639	90,370
	<16′ Other	75,815	82,485	88,533	95,079	104,402
	16-19′	58,976	64,095	60,079	54,537	48,483
	20-25′	36,732	39,316	43,909	48,801	55,257
	26-39′	17,181	17,712	17,022	15,985	14,918
	40′ +	4,992	5,189	5,787	6,422	7,261
	Total	**245,380**	**267,095**	**284,069**	**299,463**	**320,691**
5. San Diego	<16′ Jet	10,335	11,748	14,411	16,963	19,964
	<16′ Other	23,155	27,157	30,200	33,292	37,382
	16-19′	17,866	20,767	21,859	22,583	23,548
	20-25′	9,588	10,812	12,404	14,041	16,139
	26-39′	5,536	5,991	6,071	5,990	5,901
	40′ +	1,752	1,932	2,220	2,516	2,895
	Total	**68,232**	**78,407**	**87,164**	**95,384**	**105,830**
6. Northern Interior	<16′ Jet	253	273	334	390	445
	<16′ Other	4,463	5,200	5,787	6,336	6,914
	16-19′	2,388	2,915	3,381	3,840	4,333
	20-25′	592	711	871	1,039	1,226
	26-39′	76	92	101	110	118
	40′ +	32	37	42	46	50
	Total	**7,804**	**9,228**	**10,517**	**11,761**	**13,086**
7. Sacramento Basin	<16′ Jet	8,571	9,886	11,796	13,433	15,075
	<16′ Other	71,352	82,248	89,372	95,552	102,479
	16-19′	54,638	64,192	70,829	76,512	82,650
	20-25′	19,866	22,682	27,697	32,816	38,593
	26-39′	4,361	4,876	5,235	5,498	5,769
	40′ +	1,702	1,893	2,092	2,262	2,447
	Total	**160,490**	**185,777**	**207,021**	**226,074**	**247,013**
8. Central Valley	<16′ Jet	9,875	11,267	13,812	16,208	18,813
	<16′ Other	47,754	54,087	60,122	66,078	73,172
	16-19′	40,767	47,479	51,532	54,942	58,734
	20-25′	14,956	16,890	20,943	25,353	30,629
	26-39′	3,284	3,633	3,989	4,307	4,667
	40′ +	916	985	1,169	1,363	1,592
	Total	**117,552**	**134,340**	**151,567**	**168,251**	**187,606**
9. Eastern Sierra	<16′ Jet	374	429	525	622	725
	<16′ Other	1,428	1,623	1,810	2,012	2,243
	16-19′	820	955	1,006	1,045	1,080
	20-25′	275	312	381	458	550
	26-39′	40	44	43	39	35
	40′ +	14	15	17	19	21
	Total	**2,951**	**3,379**	**3,781**	**4,195**	**4,653**
10. Southern Interior	<16′ Jet	22,888	30,064	40,422	52,296	67,250
	<16′ Other	29,182	35,376	42,932	51,812	63,352
	16-19′	27,468	34,213	35,474	34,813	32,226
	20-25′	15,040	18,659	25,054	33,034	43,724
	26-39′	2,166	2,591	2,882	3,117	3,335
	40′ +	528	642	777	927	1,113
	Total	**97,272**	**121,545**	**147,540**	**175,999**	**211,000**
11. Instate subtotal	<16′ Jet	125,156	145,335	176,884	208,130	245,039
	<16′ Other	331,769	376,532	412,275	448,117	493,634
	16-19′	271,129	311,951	323,706	328,818	333,185
	20-25′	132,121	147,597	175,388	205,447	242,739
	26-39′	48,389	51,486	51,509	50,475	49,461
	40′ +	14,599	15,526	17,219	18,871	20,939
	Total	**923,163**	**1,048,426**	**1,156,980**	**1,259,858**	**1,384,997**
12. Out of State	<16′ Jet	229	229	229	229	229
	<16′ Other	851	851	851	851	851
	16-19′	501	501	501	501	501
	20-25′	358	358	358	358	358
	26-39′	361	361	361	361	361
	40′ +	95	95	95	95	95
	Total	**2,396**	**2,396**	**2,396**	**2,396**	**2,396**
Total	**<16′ Jet**	**125,385**	**145,564**	**177,113**	**208,360**	**245,268**
	<16′ Other	**332,620**	**377,383**	**413,126**	**448,968**	**494,485**
	16-19′	**271,630**	**312,452**	**324,207**	**329,319**	**333,686**
	20-25′	**132,479**	**147,955**	**175,746**	**205,805**	**243,097**
	26-39′	**48,751**	**51,847**	**51,870**	**50,836**	**49,822**
	40′ +	**14,694**	**15,621**	**17,314**	**18,967**	**21,034**
	Total	**925,559**	**1,050,822**	**1,159,376**	**1,262,254**	**1,387,393**

Table 8
Forecast Models and Coefficients for Distribution of Types within Regions

Region	Type	Model	Slope	Intercept	Backcast RSQ
1. North Coast	<16′ Jet	b-a/x	-0.6394	0.08416	95.0%
	<16′ Other	b-a/x	0.59006	0.41236	89.7%
	16-19′	ax+b	-0.0013	2.85315	56.8%
	20-25′	ax+b	0.00185	-3.56044	97.8%
	26-39′	ax+b	-0.0007	1.42346	76.2%
	40′ +	ax+b	-0.0002	0.42877	50.4%
2. San Francisco Bay	<16′ Jet	b-a/x	-1.1726	0.15333	98.2%
	<16′ Other	b-a/x	0.84037	0.30055	98.9%
	16-19′	ax+b	-0.003	6.38417	93.0%
	20-25′	ax+b	0.00261	-5.06907	95.0%
	26-39′	ax+b	-0.0011	2.35874	77.9%
	40′ +	ax+b	6.8E-05	-0.11384	7.9%
3. Central Coast	<16′ Jet	b-a/x	-1.0005	0.12782	96.1%
	<16′ Other	b-a/x	0.78529	0.31566	96.6%
	16-19′	ax+b	-0.0025	5.24366	84.3%
	20-25′	ax+b	0.00241	-4.66727	91.6%
	26-39′	ax+b	-0.0009	1.82989	87.8%
	40′ +	ax+b	-0.0001	0.22682	43.0%
4. South Coast	<16′ Jet	b-a/x	-2.3882	0.3153	98.4%
	<16′ Other	b-a/x	0.73719	0.27462	97.3%
	16-19′	ax+b	-0.0067	13.6976	99.4%
	20-25′	ax+b	0.00065	-1.16343	44.6%
	26-39′	ax+b	-0.0016	3.2154	81.9%
	40′ +	ax+b	8E-05	-0.14162	15.5%
5. San Diego	<16′ Jet	b-a/x	-1.7724	0.22263	98.1%
	<16′ Other	b-a/x	0.75839	0.31232	97.1%
	16-19′	ax+b	-0.0036	7.46327	98.0%
	20-25′	ax+b	0.00042	-0.70529	32.4%
	26-39′	ax+b	-0.0016	3.20953	75.7%
	40′ +	ax+b	8.2E-05	-0.13895	14.6%
6. Northern Interior	<16′ Jet	b-a/x	-0.3462	0.04411	92.9%
	<16′ Other	b-a/x	1.08021	0.51991	96.4%
	16-19′	ax+b	0.00177	-3.21596	47.9%
	20-25′	ax+b	0.00132	-2.56744	96.8%
	26-39′	ax+b	-4E-05	0.0916	34.4%
	40′ +	ax+b	-6E-06	0.01535	1.2%
7. Sacramento Basin	<16′ Jet	b-a/x	-0.5866	0.07782	97.9%
	<16′ Other	b-a/x	1.08208	0.39901	99.4%
	16-19′	ax+b	-0.0002	0.66955	2.0%
	20-25′	ax+b	0.00255	-4.97597	99.1%
	26-39′	ax+b	-0.0002	0.33348	55.1%
	40′ +	ax+b	-2E-06	0.01474	0.1%
8. Central Valley	<16′ Jet	b-a/x	-0.9842	0.12471	97.8%
	<16′ Other	b-a/x	0.93089	0.36303	98.2%
	16-19′	ax+b	-0.0028	5.97536	85.1%
	20-25′	ax+b	0.00243	-4.73795	98.2%
	26-39′	ax+b	-0.0002	0.33528	48.1%
	40′ +	ax+b	7.4E-05	-0.1397	47.3%
9. Eastern Sierra	<16′ Jet	b-a/x	-1.459	0.18696	99.3%
	<16′ Other	b-a/x	0.91726	0.43926	95.3%
	16-19′	ax+b	-0.0039	8.03081	96.9%
	20-25′	ax+b	0.00144	-2.79252	97.5%
	26-39′	ax+b	-0.0004	0.79662	83.0%
	40′ +	ax+b	1.6E-08	0.00432	—
10. Southern Interior	<16′ Jet	b-a/x	-2.6623	0.35518	98.8%
	<16′ Other	b-a/x	1.06835	0.2429	89.8%
	16-19′	ax+b	-0.0094	19.0078	99.4%
	20-25′	ax+b	0.00233	-4.50867	95.7%
	26-39′	ax+b	-0.0005	0.93106	83.3%
	40′ +	ax+b	-3E-05	0.06732	44.2%

Table 9
Boat Allocation Factors

Region	Type	2000	2005	2010	2015	2020
1. North Coast	<16′ Jet	0.05402568	0.05757214	0.06224827	0.0655871	0.06810378
	<16′ Other	0.44324695	0.43740366	0.43370142	0.43128625	0.42966332
	16-19′	0.31605309	0.3225377	0.31659874	0.31067746	0.30475976
	20-25′	0.13345089	0.13268572	0.14210511	0.15156393	0.16105882
	26-39′	0.03870842	0.03643215	0.03300206	0.02956647	0.02612325
	40′ +	0.01451498	0.01336863	0.0123444	0.0113188	0.01029107
	Total	**1**	**1**	**1**	**1**	**1**
2. San Francisco Bay	<16′ Jet	0.1048744	0.10468858	0.11371345	0.12040889	0.12568512
	<16′ Other	0.33273028	0.33627313	0.33192585	0.32956557	0.32843559
	16-19′	0.29769753	0.30239202	0.28863442	0.27492963	0.26117721
	20-25′	0.16119208	0.1580321	0.17200894	0.18626304	0.20077467
	26-39′	0.08031573	0.0767938	0.07144296	0.06608362	0.06068741
	40′ +	0.02318998	0.02182037	0.02227437	0.02274925	0.02324
	Total	**1**	**1**	**1**	**1**	**1**
3. Central Coast	<16′ Jet	0.0885062	0.08628585	0.09382782	0.09933714	0.10360254
	<16′ Other	0.34681846	0.3490154	0.34461589	0.34201562	0.34052563
	16-19′	0.33166143	0.33798691	0.32688654	0.31584988	0.30480835
	20-25′	0.16156485	0.15779632	0.17049997	0.18338079	0.19642396
	26-39′	0.05542946	0.05361172	0.04934194	0.04506158	0.04075736
	40′ +	0.01601961	0.0153038	0.01482784	0.01435499	0.01388217
	Total	**1**	**1**	**1**	**1**	**1**
4. South Coast	<16′ Jet	0.21062707	0.21826472	0.24197832	0.26259888	0.28179808
	<16′ Other	0.30897024	0.30882377	0.31166013	0.31749912	0.32555296
	16-19′	0.24034589	0.23997121	0.2114953	0.1821174	0.15118208
	20-25′	0.14969438	0.14719891	0.15457207	0.16296126	0.17230703
	26-39′	0.07001649	0.06631294	0.05992357	0.05337841	0.04651676
	40′ +	0.02034592	0.01942846	0.02037062	0.02144492	0.0226431
	Total	**1**	**1**	**1**	**1**	**1**
5. San Diego	<16′ Jet	0.15146947	0.14983543	0.16532887	0.17783853	0.18864592
	<16′ Other	0.33936205	0.34636242	0.346471	0.34902913	0.35322974
	16-19′	0.26183551	0.26485673	0.25077822	0.23675773	0.2225072
	20-25′	0.14051483	0.13788958	0.14230831	0.14720277	0.15250021
	26-39′	0.08113709	0.07641073	0.06964571	0.06279492	0.05575747
	40′ +	0.02568104	0.02464511	0.02546788	0.02637692	0.02735945
	Total	**1**	**1**	**1**	**1**	**1**
6. Northern Interior	<16′ Jet	0.03237843	0.02961264	0.0317783	0.03313618	0.03399788
	<16′ Other	0.57189042	0.56345185	0.5502575	0.53873471	0.52833705
	16-19′	0.30605324	0.31586671	0.32148874	0.32650624	0.33110723
	20-25′	0.07580664	0.07707977	0.08285316	0.08838025	0.09369834
	26-39′	0.00976146	0.00992924	0.0096302	0.00932284	0.00901399
	40′ +	0.00410981	0.00405979	0.0039921	0.00391978	0.00384551
	Total	**1**	**1**	**1**	**1**	**1**
7. Sacramento Basin	<16′ Jet	0.05340748	0.05321226	0.05698177	0.05941671	0.06103045
	<16′ Other	0.44458952	0.44272441	0.43170389	0.42265863	0.41487421
	16-19′	0.34044426	0.3455307	0.34213354	0.33843915	0.33459723
	20-25′	0.12378128	0.12209457	0.13378769	0.14515704	0.1562372
	26-39′	0.02717399	0.02624656	0.02528943	0.02432158	0.02335537
	40′ +	0.01060347	0.01019149	0.01010368	0.0100069	0.00990553
	Total	**1**	**1**	**1**	**1**	**1**
8. Central Valley	<16′ Jet	0.08400962	0.08386616	0.09112576	0.09633258	0.10027775
	<16′ Other	0.40624086	0.40261099	0.39667269	0.39273439	0.39002732
	16-19′	0.34680118	0.35342507	0.33999403	0.32654816	0.31306912
	20-25′	0.12722564	0.12572528	0.13817359	0.15068702	0.16326308
	26-39′	0.02793248	0.02704086	0.02631918	0.02559761	0.02487483
	40′ +	0.00779022	0.00733165	0.00771475	0.00810024	0.0084879
	Total	**1**	**1**	**1**	**1**	**1**
9. Eastern Sierra	<16′ Jet	0.12689799	0.12696015	0.13893785	0.14817428	0.1557691
	<16′ Other	0.48389897	0.4804858	0.47878416	0.47960209	0.48203418
	16-19′	0.27789053	0.28272614	0.26596771	0.24914996	0.23210411
	20-25′	0.09316561	0.09234727	0.10063959	0.10923471	0.11811997
	26-39′	0.01342808	0.01309956	0.01124396	0.00936036	0.0074376
	40′ +	0.00471882	0.00438106	0.00442672	0.0044786	0.00453504
	Total	**1**	**1**	**1**	**1**	**1**
10. Southern Interior	<16′ Jet	0.23530236	0.24734742	0.2739712	0.29713918	0.31871877
	<16′ Other	0.30000078	0.29105013	0.29098465	0.29438944	0.30024621
	16-19′	0.28237933	0.28148559	0.240436	0.19780276	0.15273059
	20-25′	0.15461609	0.15351513	0.16981071	0.18769366	0.20722277
	26-39′	0.02227166	0.02131957	0.01953307	0.01771042	0.01580481
	40′ +	0.00542977	0.00528217	0.00526437	0.00526454	0.00527684
	Total	**1**	**1**	**1**	**1**	**1**

Table 10
Boating Facilities Needs by Region

Region	2001 to 2005 Low	2001 to 2005 High	2006 to 2010 Low	2006 to 2010 High	2011 to 2020 Low	2011 to 2020 High	Total Low	Total High
Additional Ramp Lanes								
North Coast	4	14	3	11	3	23	10	48
San Francisco Bay	—	17	—	8	—	8	—	33
Central Coast	11	14	12	14	26	32	49	60
South Coast & Southern Interior	32	50	36	51	82	120	151	221
San Diego	7	8	7	8	14	16	28	32
Northern Interior	4	7	4	6	8	13	16	26
Sacramento Basin	47	79	35	64	52	119	134	262
Central Valley & Eastern Sierra	42	51	42	51	83	106	167	208
Total	**147**	**240**	**139**	**213**	**268**	**437**	**554**	**890**
Additional Parking for Cars with Trailers								
North Coast	76	297	76	245	76	497	228	1,039
San Francisco Bay	7	497	—	230	—	233	7	960
Central Coast	308	379	316	383	695	863	1,319	1,625
South Coast & Southern Interior	1,083	1,700	1,216	1,729	2,785	4,056	5,084	7,485
San Diego	175	204	159	181	338	393	672	778
Northern Interior	58	94	57	86	106	170	221	350
Sacramento Basin	1,413	2,388	1,068	1,924	1,556	3,601	4,037	7,913
Central Valley & Eastern Sierra	1,632	1,977	1,638	1,991	3,205	4,099	6,475	8,067
Total	**4,752**	**7,536**	**4,530**	**6,769**	**8,761**	**13,912**	**18,043**	**28,217**
Additional Dry Storage Spaces								
North Coast	344	1,295	260	1,037	284	2,073	888	4,405
San Francisco Bay	—	2,667	—	1,162	—	1,305	—	5,134
Central Coast	802	996	924	1,109	2,110	2,591	3,836	4,696
South Coast & Southern Interior	5,080	8,378	4,882	7,431	11,694	17,825	21,656	33,634
San Diego	1,770	2,083	1,706	1,946	3,660	4,245	7,136	8,274
Northern Interior	81	128	80	118	153	240	314	485
Sacramento Basin	1,431	2,480	1,398	2,345	2,280	4,630	5,109	9,456
Central Valley & Eastern Sierra	2,078	2,535	2,313	2,787	4,712	5,937	9,103	11,259
Total	**11,586**	**20,562**	**11,563**	**17,935**	**24,893**	**38,846**	**48,042**	**77,343**
Additional Wet Storage Spaces								
North Coast	—	—	—	354	—	746	—	1,100
San Francisco Bay	—	—	—	352	—	540	—	892
Central Coast	—	—	123	354	1,015	1,283	1,138	1,637
South Coast & Southern Interior	—	—	—	1,097	—	3,582	—	4,679
San Diego	1,123	1,363	587	749	942	1,276	2,651	3,388
Northern Interior	—	—	—	—	—	—	—	—
Sacramento Basin	—	—	—	635	1,339	4,589	1,339	5,224
Central Valley & Eastern Sierra	—	—	847	1,195	3,402	3,112	4,249	4,307
Total	**1,123**	**1,363**	**1,557**	**4,736**	**6,698**	**15,128**	**9,378**	**21,227**

Table 11
Construction Costs of Additional Facilities Needs, By Region, 2002 to 2020

	Region	Number Low	Number High	Unit Cost in 2002 $	Cost Low	Cost High
Additional Ramp Lanes	North Coast	10	48	$100,000	$1,000,000	$4,800,000
	San Francisco Bay	—	33	$100,000	—	3,300,000
	Central Coast	49	60	$100,000	4,900,000	6,000,000
	South Coast & Southern Interior	150	221	$100,000	15,000,000	22,100,000
	San Diego	28	32	$100,000	2,800,000	3,200,000
	Northern Interior	16	26	$100,000	1,600,000	2,600,000
	Sacramento Basin	134	262	$100,000	13,400,000	26,200,000
	Central Valley & Eastern Sierra	167	208	$100,000	16,700,000	20,800,000
	Total	**554**	**890**		**$55,400,000**	**$89,300,000**
Additional Parking Stalls with Trailer	North Coast	228	1,039	$2,000	$456,000	$2,078,000
	San Francisco Bay	7	960	$2,000	14,000	1,920,000
	Central Coast	1,319	1,625	$2,000	2,638,000	3,250,000
	South Coast & Southern Interior	5,084	7,485	$2,000	10,168,000	14,970,000
	San Diego	672	778	$2,000	1,344,000	1,556,000
	Northern Interior	221	350	$2,000	442,000	700,000
	Sacramento Basin	4,037	7,913	$2,000	8,074,000	15,826,000
	Central Valley & Eastern Sierra	6,475	8,067	$2,000	12,950,000	16,134,000
	Total	**18,043**	**28,217**		**$36,086,000**	**$56,434,000**
Additional Dry Storage Spaces	North Coast	888	4,405	$1,500	$1,332,000	$6,607,500
	San Francisco Bay	—	5,134	$1,500	—	7,701,000
	Central Coast	3,836	4,696	$1,500	5,754,000	7,044,000
	South Coast & Southern Interior	21,656	33,634	$1,500	32,484,000	50,451,000
	San Diego	7,136	8,274	$1,500	10,704,000	12,411,000
	Northern Interior	314	486	$1,500	471,000	729,000
	Sacramento Basin	5,109	9,455	$1,500	7,663,500	14,182,500
	Central Valley & Eastern Sierra	9,103	11,259	$1,500	13,654,500	16,888,500
	Total	**48,042**	**77,343**		**$ 72,063,000**	**$116,014,500**
Additional Wet Storage Spaces	North Coast	—	1,100	$25,000	$—	$27,500,000
	San Francisco Bay	—	892	$25,000	—	26,760,000
	Central Coast	1,138	1,637	$30,000	34,140,000	49,110,000
	South Coast & Southern Interior	—	4,679	$35,000	—	163,765,000
	San Diego	2,652	3,388	$35,000	92,820,000	118,580,000
	Northern Interior	—	—	$20,000	-—	
	Sacramento Basin	1,339	5,224	$30,000	40,170,000	156,720,000
	Central Valley & Eastern Sierra	4,249	4,307	$30,000	127,470,000	129,210,000
	Total	**9,378**	**21,2277**		**$294,600,000**	**$671,645,000**

Table 12 — North Coast Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	1,872	15,355	10,949	4,623	1,341	503	34,642
2005	2,435	18,499	13,641	5,612	1,541	565	42,293
2010	3,007	20,948	15,292	6,864	1,594	596	48,300
2015	3,541	23,284	16,772	8,182	1,596	611	53,987
2020	4,097	25,845	18,332	9,688	1,571	619	60,151
b. Low Boat Forecasts (RP3)							
2000	1,872	15,355	10,949	4,623	1,341	503	34,642
2005	2,107	16,010	11,806	4,857	1,334	489	36,603
2010	2,365	16,481	12,031	5,400	1,254	469	38,001
2015	2,538	16,692	12,024	5,866	1,144	438	38,702
2020	2,681	16,913	11,996	6,340	1,028	405	39,364
	Percent with Type						**Total**
	<16′ Jet	**<16′ Other**	**16′-19′11″**	**20′-25′11″**	**26′-39′11″**	**40′+**	
c. Facility Type at Main Storage Site							
Boat storage	—	2.5%	7.7%	16.4%	72.7%	100%	10.2%
General storage	—	3.0%	5.2%	10.9%	4.5%	—	4.6%
Own property	88.9%	88.4%	77.4%	67.3%	18.2%	—	77.9%
Other	—	0.5%	—	—	—	—	0.2%
Other private property	11.1%	5.6%	9.7%	5.5%	4.5%	—	7.1%
d. Support Method at Main Storage Site							
Water	0.0%	2.5%	5.8%	18.2%	76.2%	100%	9.9%
Trailer	88.9%	62.8%	91.7%	80.0%	19.0%	—	73.1%
Rack	5.6%	8.0%	1.3%	—	—	—	4.2%
Ground	5.6%	26.6%	1.3%	1.8%	4.8%	—	12.8%
e. Usual Launching Method							
Ramp	94.4%	68.8%	97.3%	97.8%	75.0%	—	83.5%
Hoist	—	0.5%	0.7%	2.2%	25.0%	—	1.0%
Launching service	—	1.0%	—	—	—	—	0.5%
Carry	—	25.5%	1.4%	—	—	—	12.6%
Other	—	2.6%	0.7%	—	—	—	1.5%
Wheeled dolly	—	1.0%	—	—	—	—	0.5%
Back in, no ramp	5.6%	0.5%	—	—	—	—	0.5%

Boating Activity Projections

		Type						Total		
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		20.58	44.67	30.03	56.35	68.60	82.78			
High	2000	38,517	685,906	328,790	260,506	91,988	41,624	1,447,331		
	2005	50,110	826,353	409,641	316,217	105,700	46,804	1,754,824		
	2010	61,876	935,735	459,209	386,767	109,348	49,356	2,002,292		
	2015	72,870	1,040,082	503,676	461,079	109,499	50,584	2,237,790		
	2020	84,306	1,154,482	550,498	545,910	107,794	51,242	2,494,233		
Low	2000	38,517	685,906	328,790	260,506	91,988	41,624	1,447,331		
	2005	43,368	715,174	354,527	273,673	91,479	40,507	1,518,727		
	2010	48,682	736,208	361,292	304,297	86,032	38,832	1,575,343		
	2015	52,240	745,624	361,080	330,543	78,499	36,263	1,604,248		
	2020	55,171	755,511	360,255	357,252	70,542	33,534	1,632,265		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		100%	97.5%	94.2%	81.8%	23.8%	—		Lanes	Car/Tlr Spaces
Percent of dry using ramp		94.4%	68.8%	97.3%	97.8%	75.0%	—			
High	2000	36,360	460,106	301,358	208,406	16,420	—	1,022,649	62	1,342
	2005	47,304	554,317	375,463	252,975	18,867	—	1,248,926	76	1,639
	2010	58,411	627,691	420,896	309,415	19,519	—	1,435,932	87	1,884
	2015	68,789	697,687	461,652	368,865	19,546	—	1,616,540	98	2,121
	2020	79,585	774,426	504,568	436,730	19,241	—	1,814,551	110	2,381
								Net Increase, 2000-2020	**48**	**1,039**
Low	2000	36,360	460,106	301,358	208,406	16,420	—	1,022,649	62	1,342
	2005	40,940	479,739	324,947	218,939	16,329	—	1,080,894	66	1,418
	2010	45,956	493,849	331,148	243,439	15,357	—	1,129,748	68	1,483
	2015	49,314	500,164	330,953	264,436	14,012	—	1,158,880	70	1,521
	2020	52,082	506,797	330,197	285,803	12,592	—	1,187,471	72	1,558
								Net Increase, 2000-2020	**10**	**216**

Table 12 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		100%	97.5%	94.2%	81.8%	23.8%	—	
Percent using own property		88.9%	88.4%	77.4%	67.3%	18.2%	—	
Percent using other space		11.1%	11.6%	22.6%	32.7%	81.8%	100%	
High	2000	208	1,737	2,331	1,237	261	—	5,773
	2005	270	2,092	2,904	1,501	300	—	7,068
	2010	334	2,369	3,255	1,836	310	—	8,105
	2015	393	2,633	3,571	2,189	311	—	9,097
	2020	455	2,923	3,903	2,591	306	—	10,178
							Net Increase, 2000-2020	**4,405**
Low	2000	208	1,737	2,331	1,237	261	—	5,773
	2005	234	1,811	2,513	1,299	260	—	6,117
	2010	263	1,864	2,561	1,444	244	—	6,377
	2015	282	1,888	2,560	1,569	223	—	6,521
	2020	298	1,913	2,554	1,696	200	—	6,660
							Net Increase, 2000-2020	**888**

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		18.2%	76.2%	100%	
High	2000	841	1,022	503	2,366
	2005	1,021	1,174	565	2,761
	2010	1,249	1,215	596	3,060
	2015	1,489	1,216	611	3,317
	2020	1,763	1,197	619	3,580
Low	2000	841	1,022	503	2,366
	2005	884	1,016	489	2,389
	2010	983	956	469	2,408
	2015	1,068	872	438	2,378
	2020	1,154	784	405	2,343

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	14	297
	2006-2010	11	245
	2011-2015	11	237
	2016-2020	12	260
Low	2001-2005	4	76
	2006-2010	3	64
	2011-2015	2	38
	2016-2020	2	38

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	1,295
	2006-2010	1,037
	2011-2015	992
	2016-2020	1,081
Low	2001-2005	344
	2006-2010	260
	2011-2015	145
	2016-2020	139

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	4,039	3,235	3,235	—	804	—
	2005	4,039	—	3,775	189	75	—
	2010	4,039	—	4,184	209	—	354
	2015	4,039	—	4,535	227	—	723
	2020	4,039	—	4,894	245	—	1,100
Low	2000	4,039	3,235	3,235	—	804	—
	2005	4,039	—	3,267	163	609	—
	2010	4,039	—	3,292	165	582	—
	2015	4,039	—	3,251	163	625	—
	2020	4,039	—	3,203	160	676	—

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	180	152	63	395
	2006-2010	228	41	31	299
	2011-2015	240	2	15	257
	2016-2020	274	(19)	8	263
Low	2006-2010	99	(61)	(20)	18
	2011-2015	85	(84)	(31)	(30)
	2016-2020	86	(88)	(33)	(35)
	2001-2005	180	152	63	395

Table 13 — San Francisco Bay Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	16,594	52,646	47,103	25,504	12,708	3,669	158,223
2005	17,804	57,190	51,427	26,876	13,060	3,711	170,069
2010	19,878	58,023	50,455	30,068	12,489	3,894	174,806
2015	21,225	58,094	48,463	32,833	11,649	4,010	176,273
2020	22,525	58,862	46,808	35,983	10,876	4,165	179,219
b. Low Boat Forecasts (RP3)							
2000	16,594	52,646	47,103	25,504	12,708	3,669	158,223
2005	16,486	52,954	47,619	24,886	12,093	3,436	157,474
2010	17,400	50,790	44,165	26,320	10,932	3,408	153,015
2015	17,459	47,787	39,865	27,008	9,582	3,299	145,001
2020	17,290	45,181	35,928	27,619	8,348	3,197	137,563
	Percent with Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
c. Facility Type at Main Storage Site							
Boat storage	18.2%	11.9%	12.8%	31.5%	86.1%	100%	23.0%
General storage	—	5.2%	8.1%	7.4%	—	—	5.6%
Own property	78.8%	77.8%	72.5%	59.3%	8.3%	—	66.3%
Club	—	—	—	—	2.8%	—	0.2%
Other private property	3.0%	5.2%	6.0%	—	2.8%	—	4.4%
Other public property	—	—	—	1.9%	—	—	0.2%
Private mooring	—	—	0.7%	—	—	—	0.2%
d. Support Method at Main Storage Site							
Water	21.2%	6.6%	6.8%	29.1%	94.4%	100%	20.0%
Trailer	69.7%	66.9%	84.5%	63.6%	5.6%	—	66.5%
Rack	—	14.7%	4.7%	5.5%	—	—	7.2%
Ground	9.1%	11.8%	4.1%	1.8%	—	—	6.3%
e. Usual Launching Method							
Ramp	84.6%	70.4%	90.6%	89.7%	66.7%	—	82.2%
Hoist	—	0.8%	2.2%	—	—	—	1.2%
Launching service	—	—	4.3%	7.7%	—	—	2.7%
Carry	15.4%	26.4%	2.9%	—	—	—	12.4%
Other	—	0.8%	—	—	33.3%	—	0.6%
Wheeled dolly	—	0.8%	—	—	—	—	0.3%
Back in, no ramp	—	0.8%	—	—	—	—	0.3%
Dry dock	—	—	—	2.6%	—	—	0.3%

Boating Activity Projections

		Type						Total		
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		75.75	44.02	37.97	35.03	52.65	51.63			
High	2000	1,256,961	2,317,459	1,788,486	893,415	669,065	189,440	7,114,826		
	2005	1,348,673	2,517,484	1,952,700	941,478	687,621	191,597	7,639,552		
	2010	1,505,745	2,554,160	1,915,780	1,053,290	657,529	201,032	7,887,536		
	2015	1,607,785	2,557,282	1,840,132	1,150,148	613,308	207,041	7,975,696		
	2020	1,706,280	2,591,100	1,777,296	1,260,471	572,639	215,041	8,122,828		
Low	2000	1,256,961	2,317,459	1,788,486	893,415	669,065	189,440	7,114,826		
	2005	1,248,796	2,331,051	1,808,092	871,756	636,699	177,408	7,073,802		
	2010	1,318,037	2,235,755	1,676,957	921,986	575,560	175,971	6,904,267		
	2015	1,322,553	2,103,603	1,513,680	946,104	504,503	170,310	6,560,754		
	2020	1,309,689	1,988,849	1,364,198	967,499	439,540	165,059	6,234,835		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		78.8%	93.4%	93.2%	70.9%	5.6%	—		Lanes	Car/Tlr Spaces
Percent of dry using ramp		84.6%	70.4%	90.6%	89.7%	66.7%	—			
High	2000	837,950	1,523,812	1,510,183	568,188	24,991	—	4,465,125	214	6,122
	2005	899,090	1,655,336	1,648,844	598,754	25,684	—	4,827,709	231	6,619
	2010	1,003,802	1,679,452	1,617,670	669,864	24,560	—	4,995,348	239	6,849
	2015	1,071,827	1,681,505	1,553,793	731,463	22,908	—	5,061,496	243	6,940
	2020	1,137,488	1,703,741	1,500,735	801,626	21,389	—	5,164,979	248	7,082
								Net Increase, 2000-2020	**34**	**960**
Low	2000	837,950	1,523,812	1,510,183	568,188	24,991	—	4,465,125	214	6,122
	2005	832,507	1,532,750	1,526,738	554,413	23,782	—	4,470,191	214	6,129
	2010	878,667	1,470,090	1,416,009	586,358	21,498	—	4,372,622	210	5,995
	2015	881,677	1,383,195	1,278,139	601,696	18,844	—	4,163,552	200	5,709
	2020	873,101	1,307,740	1,151,918	615,303	16,418	—	3,964,480	190	5,436
								Net Increase, 2000-2020	**(24)**	**(686)**

Table 13 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		78.8%	93.4%	93.2%	70.9%	5.6%	—	
Percent using own property		78.8%	77.8%	72.5%	59.3%	8.3%	—	
Percent using other space		21.2%	22.2%	27.5%	40.7%	91.7%	100%	
High	2000	2,772	10,916	12,072	7,360	653	—	33,773
	2005	2,974	11,858	13,181	7,756	671	—	36,439
	2010	3,321	12,031	12,932	8,677	641	—	37,601
	2015	3,546	12,046	12,421	9,474	598	—	38,085
	2020	3,763	12,205	11,997	10,383	559	—	38,906
							Net Increase, 2000-2020	**5,134**
Low	2000	2,772	10,916	12,072	7,360	653	—	33,773
	2005	2,754	10,980	12,205	7,181	621	—	33,741
	2010	2,907	10,531	11,320	7,595	561	—	32,914
	2015	2,917	9,909	10,217	7,794	492	—	31,328
	2020	2,888	9,368	9,208	7,970	429	—	29,863
							Net Increase, 2000-2020	**(3,909)**

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		29.1%	94.4%	100%	
High	2000	7,422	11,996	3,669	23,087
	2005	7,821	12,329	3,711	23,861
	2010	8,750	11,789	3,894	24,433
	2015	9,554	10,996	4,010	24,561
	2020	10,471	10,267	4,165	24,903
Low	2000	7,422	11,996	3,669	23,087
	2005	7,242	11,416	3,436	22,094
	2010	7,659	10,320	3,408	21,387
	2015	7,859	9,046	3,299	20,204
	2020	8,037	7,881	3,197	19,115

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	17	497
	2006-2010	8	230
	2011-2015	3	91
	2016-2020	5	142
Low	2001-2005	—	7
	2006-2010	—	—
	2011-2015	—	—
	2016-2020	—	—

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	2,667
	2006-2010	1,162
	2011-2015	484
	2016-2020	821
Low	2001-2005	—
	2006-2010	—
	2011-2015	—
	2016-2020	—

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	27,691	25,237	25,237	—	2,454	—
	2005	27,691	—	26,083	1,304	304	—
	2010	27,691	—	26,708	1,335	(352)	352
	2015	27,691	—	26,848	1,342	(499)	499
	2020	27,691	—	27,222	1,361	(892)	892
Low	2000	27,691	25,237	25,237	—	2,454	—
	2005	27,691	—	24,151	1,208	2,332	—
	2010	27,691	—	23,378	1,169	3,144	—
	2015	27,691	—	22,085	1,104	4,502	—
	2020	27,691	—	20,895	1,045	5,751	—

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	399	333	42	774
	2006-2010	929	(540)	183	572
	2011-2015	805	(793)	116	128
	2016-2020	916	(729)	155	342
Low	2001-2005	(180)	(580)	(233)	(993)
	2006-2010	417	(1,096)	(28)	(707)
	2011-2015	200	(1,274)	(110)	(1,183)
	2016-2020	178	(1,165)	(102)	(1,089)

Table 14 — Central Coast Region

	Type						
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
a. High Boat Forecasts (RP1)							
2000	2,710	10,619	10,154	4,947	1,697	490	30,617
2005	3,132	12,667	12,266	5,727	1,946	555	36,292
2010	3,961	14,548	13,799	7,198	2,083	626	42,214
2015	4,815	16,578	15,310	8,889	2,184	696	48,472
2020	5,776	18,984	16,993	10,950	2,272	774	55,749
b. Low Boat Forecasts (RP3)							
2000	2,710	10,619	10,154	4,947	1,697	490	30,617
2005	3,037	12,284	11,896	5,554	1,887	539	35,196
2010	3,761	13,815	13,104	6,835	1,978	594	40,089
2015	4,485	15,442	14,261	8,280	2,035	648	45,150
2020	5,285	17,370	15,548	10,019	2,079	708	51,009
	Percent with Type						
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
c. Facility Type at Main Storage Site							
Boat storage	—	5.8%	6.7%	19.1%	83.0%	84.6%	29.5%
General storage	—	2.9%	3.8%	11.8%	4.0%	—	4.7%
Own property	88.9%	84.5%	81.9%	61.8%	8.0%	7.7%	59.0%
Other	—	—	1.0%	—	—	—	0.2%
Club	—	—	1.9%	—	2.0%	—	1.0%
Other private property	11.1%	5.8%	4.8%	5.9%	2.0%	—	4.7%
Other public property	—	1.0%	—	1.5%	1.0%	—	0.7%
d. Support Method at Main Storage Site							
Water	—	4.9%	1.9%	20.9%	86.0%	92.3%	29.2%
Trailer	88.9%	68.9%	94.3%	76.1%	13.0%	7.7%	61.9%
Rack	—	9.7%	0.9%	1.5%	1.0%	—	3.2%
Ground	11.1%	15.5%	2.8%	1.5%	—	—	5.4%
e. Usual Launching Method							
Ramp	88.9%	71.7%	87.6%	87.0%	30.8%	100%	79.7%
Hoist	—	3.0%	3.8%	11.1%	30.8%	—	5.9%
Launching service	—	—	—	1.9%	15.4%	—	1.0%
Carry	5.6%	21.2%	3.8%	—	7.7%	—	9.3%
Other	—	3.0%	2.9%	—	15.4%	—	2.8%
Wheeled dolly	5.6%	—	1.9%	—	—	—	1.0%
Back in, no ramp	—	1.0%	—	—	—	—	0.3%

Boating Activity Projections

		Type								
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total		
f. Boat Use Days per Year										
Average, 2000		45.11	37.63	44.94	25.50	58.65	73.13			
High	2000	122,239	399,576	456,342	126,139	99,534	35,868	1,239,698		
	2005	141,263	476,646	551,251	146,034	114,115	40,617	1,469,927		
	2010	178,676	547,432	620,141	183,538	122,164	45,776	1,697,726		
	2015	217,207	623,835	688,024	226,665	128,104	50,885	1,934,721		
	2020	260,543	714,366	763,654	279,236	133,263	56,596	2,207,658		
Low	2000	122,239	399,576	456,342	126,139	99,534	35,868	1,239,698		
	2005	136,995	462,243	534,595	141,621	110,667	39,390	1,425,512		
	2010	169,678	519,866	588,914	174,296	116,013	43,471	1,612,237		
	2015	202,322	581,084	640,874	211,131	119,325	47,398	1,802,134		
	2020	238,393	653,633	698,731	255,496	121,934	51,785	2,019,973		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		100%	95.1%	98.1%	79.1%	14.0%	7.7%		Lanes	Car/Tlr Spaces
Percent of dry using ramp		88.9%	71.7%	87.6%	87.0%	30.8%	100%			
High	2000	108,670	272,457	392,160	86,805	4,292	2,762	867,147	74	1,985
	2005	125,583	325,009	473,721	100,496	4,921	3,128	1,032,858	88	2,364
	2010	158,843	373,276	532,922	126,305	5,268	3,525	1,200,138	102	2,747
	2015	193,097	425,373	591,258	155,984	5,524	3,918	1,375,154	117	3,148
	2020	231,623	487,102	656,250	192,162	5,746	4,358	1,577,242	135	3,610
								Net Increase, 2000-2020	**61**	**1,625**
Low	2000	108,670	272,457	392,160	86,805	4,292	2,762	867,147	74	1,985
	2005	121,788	315,188	459,407	97,460	4,772	3,033	1,001,649	85	2,293
	2010	150,844	354,479	506,087	119,945	5,002	3,347	1,139,705	97	2,609
	2015	179,864	396,222	550,739	145,294	5,145	3,650	1,280,914	109	2,932
	2020	211,931	445,691	600,459	175,825	5,258	3,987	1,443,151	123	3,304
								Net Increase, 2000-2020	**49**	**1,319**

Table 14 *(cont.)*

Boating Activity Projections *(cont.)*

		Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
h. Dry Storage Demand								
Percent dry-stored		100%	95.1%	98.1%	79.1%	14.0%	7.7%	
Percent using own property		88.9%	84.5%	81.9%	61.8%	8.0%	7.7%	
Percent using other space		11.1%	15.5%	18.1%	38.2%	92.0%	92.3%	
High	2000	301	1,565	1,803	1,495	219	35	5,417
	2005	348	1,867	2,178	1,730	251	39	6,413
	2010	440	2,144	2,450	2,175	268	44	7,522
	2015	534	2,444	2,718	2,686	281	49	8,713
	2020	641	2,798	3,017	3,309	293	55	10,113
Low	2000	301	1,565	1,803	1,495	219	35	5,417
	2005	337	1,811	2,112	1,678	243	38	6,219
	2010	418	2,036	2,327	2,065	255	42	7,143
	2015	498	2,276	2,532	2,502	262	46	8,116
	2020	587	2,560	2,761	3,028	268	50	9,253

		Type 20′-25′11″	26′-39′11″	40′+	Total
i. Wet Storage Demand					
Percent wet-stored		20.9%	86.0%	92.3%	
High	2000	1,034	1,459	453	2,946
	2005	1,197	1,673	513	3,383
	2010	1,504	1,791	578	3,873
	2015	1,858	1,878	642	4,378
	2020	2,289	1,954	714	4,957
Low	2000	1,034	1,459	453	2,946
	2005	1,161	1,623	497	3,281
	2010	1,429	1,701	549	3,678
	2015	1,730	1,750	598	4,078
	2020	2,094	1,788	654	4,536

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	14	379
	2006-2010	14	383
	2011-2015	15	401
	2016-2020	17	463
Low	2001-2005	11	308
	2006-2010	12	316
	2011-2015	12	323
	2016-2020	14	371

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	996
	2006-2010	1,109
	2011-2015	1,191
	2016-2020	1,400
Low	2001-2005	802
	2006-2010	924
	2011-2015	973
	2016-2020	1,137

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	4,232	3,322	3,322	—	910	—
	2005	4,232	—	3,815	191	227	—
	2010	4,232	—	4,368	218	—	354
	2015	4,232	—	4,937	247	—	952
	2020	4,232	—	5,590	279	—	1,637
Low	2000	4,232	3,322	3,322	—	910	—
	2005	4,232	—	3,699	185	348	—
	2010	4,232	—	4,148	207	—	123
	2015	4,232	—	4,599	230	—	597
	2020	4,232	—	5,115	256	—	1,138

		Type 20′-25′11″	26′-39′	40′+	Total
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	163	214	60	437
	2006-2010	307	118	65	491
	2011-2015	353	87	64	505
	2016-2020	431	76	72	579
Low	2001-2005	127	163	44	335
	2006-2010	268	78	52	398
	2011-2015	302	49	50	400
	2016-2020	364	38	55	457

Table 15 — South Coast and Southern Interior Regions

	Type						
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
a. High Boat Forecasts (RP1)							
2000	74,572	104,997	86,444	51,772	19,347	5,521	342,652
2005	88,361	117,861	98,308	57,975	20,303	5,831	388,640
2010	109,160	131,465	95,553	68,963	19,904	6,563	431,609
2015	130,935	146,891	89,350	81,835	19,102	7,349	475,461
2020	157,620	167,754	80,709	98,981	18,252	8,375	531,691
b. Low Boat Forecasts (RP3)							
2000	74,572	104,997	86,444	51,772	19,347	5,521	342,652
2005	84,423	112,556	93,935	55,379	19,350	5,557	371,200
2010	101,326	121,926	88,697	64,005	18,394	6,062	400,411
2015	118,235	132,459	80,660	73,907	17,128	6,582	428,970
2020	138,648	147,258	70,913	87,123	15,891	7,276	467,107
	Percent with Type						
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
c. Facility Type at Main Storage Site							
Boat storage	2.3%	12.3%	8.4%	5.6%	77.1%	100%	12.2%
General storage	4.7%	4.3%	5.0%	13.3%	2.9%	—	5.8%
Own property	91.5%	77.3%	77.7%	65.6%	14.3%	—	74.6%
Other	—	—	1.0%	—	—	—	0.3%
Club	—	—	—	—	2.9%	—	0.2%
Other private property	0.8%	6.1%	6.9%	15.6%	2.9%	—	6.4%
Other public property	0.8%	—	0.5%	—	—	—	0.3%
Private mooring	—	—	0.5%	—	—	—	0.2%
d. Support Method at Main Storage Site							
Water	1.6%	9.8%	7.3%	6.7%	82.4%	100%	11.5%
Trailer	90.7%	51.5%	88.3%	91.0%	17.6%	—	75.0%
Rack	5.4%	16.0%	—	—	—	—	5.3%
Ground	2.3%	22.7%	4.4%	2.2%	—	—	8.2%
e. Usual Launching Method							
Ramp	89.9%	62.6%	97.9%	96.4%	100%	—	86.5%
Hoist	—	1.4%	—	3.6%	—	—	0.9%
Launching service	1.6%	2.7%	—	—	—	—	1.1%
Carry	8.5%	27.9%	1.6%	—	—	—	9.9%
Other	—	4.8%	0.5%	—	—	—	1.4%
Back in, no ramp	—	0.7%	—	—	—	—	0.2%

Boating Activity Projections

		Type							Year 2000 Service Level	
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total	Lanes	Car/Tlr Spaces
f. Boat Use Days per Year										
Average, 2000		58.71	49.56	34.84	36.54	40.84	56.09			
High	2000	4,309,132	5,292,862	3,131,712	1,736,453	815,666	314,127	15,599,952		
	2005	5,113,950	5,860,222	3,544,677	1,962,594	852,597	330,044	17,664,083		
	2010	6,326,625	6,429,025	3,432,751	2,363,003	832,218	370,349	19,753,971		
	2015	7,598,974	7,064,384	3,200,606	2,836,919	794,932	413,462	21,909,277		
	2020	9,159,365	7,938,190	2,886,637	3,468,831	755,789	470,008	24,678,821		
Low	2000	4,309,132	5,292,862	3,131,712	1,736,453	815,666	314,127	15,599,952		
	2005	4,886,614	5,587,939	3,385,594	1,876,114	812,324	314,361	16,862,945		
	2010	5,873,847	5,946,263	3,184,159	2,196,003	768,608	341,815	18,310,695		
	2015	6,864,217	6,342,321	2,886,077	2,567,357	712,025	369,860	19,741,856		
	2020	8,060,771	6,923,137	2,532,203	3,062,221	656,927	407,583	21,642,844		
g. Launching Demand										
Percent dry-stored		98.4%	90.2%	92.7%	93.3%	17.6%	—			
Percent of dry using ramp		89.9%	62.6%	97.9%	96.4%	100%	—			
High	2000	3,603,190	2,936,781	2,840,024	1,575,332	112,978	—	11,068,305	347	11,714
	2005	4,305,000	3,256,532	3,214,832	1,778,231	120,371	—	12,674,967	397	3,414
	2010	5,357,955	3,579,271	3,113,551	2,137,503	119,951	—	14,308,232	449	15,143
	2015	6,472,734	3,940,484	2,903,162	2,562,172	117,115	—	15,995,667	501	16,929
	2020	7,843,771	4,436,171	2,618,453	3,128,351	113,936	—	18,140,682	569	19,199
								Net Increase, 2000-2020	**222**	**7,485**
Low	2000	3,603,190	2,936,781	2,840,024	1,575,332	112,978	—	11,091,367	347	11,714
	2005	4,115,774	3,105,749	3,070,578	1,699,702	114,865	—	12,116,466	379	12,797
	2010	4,979,020	3,311,523	2,888,116	1,986,087	111,106	—	13,268,037	415	14,013
	2015	5,855,126	3,539,509	2,617,923	2,318,078	105,411	—	14,411,682	451	15,221
	2020	6,916,870	3,871,855	2,297,022	2,760,577	99,768	—	15,904,861	498	16,798
								Net Increase, 2000-2020	**151**	**5,084**

Table 15 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		98.4%	90.2%	92.7%	93.3%	17.6%	—	
Percent using own property		91.5%	77.3%	77.7%	65.6%	14.3%	—	
Percent using other space		8.5%	22.7%	22.3%	34.4%	85.7%	100%	
High	2000	6,260	21,494	17,848	16,630	2,926	—	65,159
	2005	7,418	24,128	20,298	18,623	3,071	—	73,537
	2010	9,164	26,912	19,729	22,153	3,011	—	80,969
	2015	10,992	30,070	18,448	26,287	2,889	—	88,687
	2020	13,232	34,341	16,664	31,795	2,761	—	98,793
Low	2000	6,260	21,494	17,848	16,630	2,926	—	65,159
	2005	7,087	23,042	19,395	17,789	2,927	—	70,240
	2010	8,506	24,960	18,314	20,560	2,782	—	75,122
	2015	9,926	27,116	16,654	23,741	2,591	—	80,027
	2020	11,639	30,146	14,641	27,986	2,404	—	86,816

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		6.7%	82.4%	100%	
High	2000	3,490	15,933	5,521	24,944
	2005	3,908	16,720	5,831	26,460
	2010	4,649	16,392	6,563	27,604
	2015	5,517	15,731	7,349	28,596
	2020	6,673	15,031	8,375	30,079
Low	2000	3,490	15,933	5,521	24,944
	2005	3,733	15,936	5,557	25,226
	2010	4,315	15,148	6,062	25,526
	2015	4,982	14,105	6,582	25,669
	2020	5,873	13,086	7,276	26,236

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	50	1,700
	2006-2010	51	1,729
	2011-2015	53	1,786
	2016-2020	67	2,270
Low	2001-2005	32	1,083
	2006-2010	36	1,216
	2011-2015	36	1,208
	2016-2020	47	1,577

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	8,378
	2006-2010	7,431
	2011-2015	7,719
	2016-2020	10,106
Low	2001-2005	33,634
	2006-2010	5,080
	2011-2015	4,882
	2016-2020	4,905

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	38,860	34,646	34,646	—	4,214	—
	2005	38,860	—	36,752	1,838	270	—
	2010	38,860	—	38,342	1,917	—	1,399
	2015	38,860	—	39,720	1,986	—	2,846
	2020	38,860	—	41,779	2,089	—	5,008
Low	2000	38,860	34,646	34,646	—	4,214	—
	2005	38,860	—	35,038	1,752	2,070	—
	2010	38,860	—	35,455	,773	1,633	—
	2015	38,860	—	35,654	1,783	1,423	—
	2020	38,860	—	36,441	1,822	597	—

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	418	787	311	1,516
	2006-2010	741	(328)	732	1,144
	2011-2015	868	(661)	785	992
	2016-2020	1,156	(700)	1,026	1,483
Low	2001-2005	243	3	36	282
	2006-2010	582	(787)	506	300
	2011-2015	668	(1,043)	519	144
	2016-2020	891	(1,019)	694	567

Table 16 — South Coast Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	51,684	75,815	58,976	36,732	17,181	4,992	245,380
2005	58,298	82,485	64,095	39,316	17,712	5,189	267,095
2010	68,738	88,533	60,079	43,909	17,022	5,787	284,069
2015	78,639	95,079	54,537	48,801	15,985	6,422	299,463
2020	90,370	104,402	48,483	55,257	14,918	7,261	320,691
b. Low Boat Forecasts (RP3)							
2000	51,684	75,815	58,976	36,732	17,181	4,992	245,380
2005	55,480	78,498	60,997	37,416	16,856	4,938	254,185
2010	63,343	81,584	55,363	40,463	15,686	5,332	261,772
2015	70,165	84,834	48,661	43,543	14,262	5,730	267,196
2020	78,067	90,188	41,882	47,734	12,887	6,273	277,030
	Percent with Type						**Total**
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
c. Facility Type at Main Storage Site							
Boat storage	6.0%	15.3%	13.8%	5.4%	77.8%	100%	18.4%
General storage	10.0%	6.3%	2.3%	21.6%	3.7%	—	7.3%
Own property	84.0%	69.4%	73.6%	73.0%	11.1%	—	67.6%
Other	—	—	2.3%	—	—	—	0.6%
Club	—	—	—	—	3.7%	—	0.3%
Other private property	—	9.0%	8.0%	—	3.7%	—	5.7%
d. Support Method at Main Storage Site							
Water	4.0%	11.8%	9.4%	8.1%	88.0%	100%	16.7%
Trailer	86.0%	49.1%	84.7%	86.5%	12.0%	—	65.6%
Rack	6.0%	16.4%	—	—	—	—	6.8%
Ground	4.0%	22.7%	5.9%	5.4%	—	—	10.9%
e. Usual Launching Method							
Ramp	81.6%	61.9%	100%	100%	100%	—	82.2%
Hoist	—	2.1%	—	—	—	—	0.8%
Launching service	4.1%	3.1%	—	—	—	—	1.9%
Carry	14.3%	30.9%	—	—	—	—	14.3%
Other	—	2.1%	—	—	—	—	0.8%

Boating Activity Projections

		Type						Total		
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		56.95	59.02	38.03	30.65	43.35	58.90			
High	2000	2,943,385	4,474,608	2,242,860	1,125,836	744,781	294,057	11,825,528		
	2005	3,320,043	4,868,289	2,437,541	1,205,040	767,810	305,647	12,904,369		
	2010	3,914,657	5,225,213	2,284,813	1,345,814	737,922	340,834	13,849,254		
	2015	4,478,467	5,611,572	2,074,056	1,495,745	692,943	378,253	14,731,037		
	2020	5,146,578	6,161,801	1,843,799	1,693,637	646,674	427,699	15,920,188		
Low	2000	2,943,385	4,474,608	2,242,860	1,125,836	744,781	294,057	11,825,528		
	2005	3,159,564	4,632,974	2,319,719	1,146,793	730,697	290,873	12,280,620		
	2010	3,607,386	4,815,073	2,105,472	1,240,178	680,000	314,081	12,762,191		
	2015	3,995,915	5,006,929	1,850,578	1,334,580	618,279	337,497	13,143,777		
	2020	4,445,890	5,322,894	1,592,772	1,463,054	558,632	369,469	13,752,712		
g. Launching Demand									**Year 2000 Service Level**	
Percent dry-stored		96.0%	88.2%	90.6%	91.9%	12.0%	—		**Lanes**	**Car/Tlr Spaces**
Percent of dry using ramp		81.6%	61.9%	100%	100%	100%	—			
High	2000	2,305,730	2,442,948	2,032,031	1,034,643	89,374	—	7,904,727	193	3,356
	2005	2,600,789	2,657,881	2,208,412	1,107,432	92,137	—	8,666,651	212	3,679
	2010	3,066,586	2,852,747	2,070,040	1,236,803	88,551	—	9,314,727	227	3,955
	2015	3,508,252	3,063,683	1,879,095	1,374,590	83,153	—	9,908,773	242	4,207
	2020	4,031,624	3,364,085	1,670,481	1,556,452	77,601	—	10,700,243	261	4,543
								Net Increase, 2000-2020	**68**	**1,187**
Low	2000	193	3,356	2,032,031	1,034,643	89,374	—	7,904,727	193	3,356
	2005	201	3,502	2,101,665	1,053,903	87,684	—	8,247,737	201	3,502
	2010	210	3,644	1,907,558	1,139,723	81,600	—	8,583,591	210	3,644
	2015	216	3,754	1,676,624	1,226,479	74,193	—	8,841,109	216	3,754
	2020	226	3,924	1,443,051	1,344,547	67,036	—	9,243,444	226	3,924
								Net Increase, 2000-2020	**33**	**568**

Table 16 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		96.0%	88.2%	90.6%	91.9%	12.0%	—	
Percent using own property		84.0%	69.4%	73.6%	73.0%	11.1%	—	
Percent using other space		16.0%	30.6%	26.4%	27.0%	88.9%	100%	
High	2000	7,939	20,462	14,106	9,114	1,833	—	53,454
	2005	8,954	22,262	15,331	9,756	1,890	—	58,192
	2010	10,558	23,894	14,370	10,895	1,816	—	61,534
	2015	12,079	25,661	13,044	12,109	1,705	—	64,599
	2020	13,881	28,177	11,596	13,711	1,591	—	68,957
Low	2000	7,939	20,462	14,106	9,114	1,833	—	53,454
	2005	8,522	21,186	14,590	9,284	1,798	—	55,379
	2010	9,729	22,019	13,242	10,040	1,673	—	56,704
	2015	10,777	22,896	11,639	10,804	1,522	—	57,638
	2020	11,991	24,341	10,018	11,844	1,375	—	59,569

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		8.1%	88.0%	100%	
High	2000	2,975	15,119	4,992	23,087
	2005	3,185	15,586	5,189	23,960
	2010	3,557	14,980	5,787	24,323
	2015	3,953	14,067	6,422	24,441
	2020	4,476	13,127	7,261	24,865
Low	2000	2,975	15,119	4,992	23,087
	2005	3,031	14,833	4,938	22,802
	2010	3,277	13,804	5,332	22,414
	2015	3,527	12,551	5,730	21,808
	2020	3,866	11,340	6,273	21,479

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	19	323
	2006-2010	16	275
	2011-2015	15	252
	2016-2020	19	336
Low	2001-2005	8	146
	2006-2010	8	143
	2011-2015	6	109
	2016-2020	10	171

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	4,738
	2006-2010	3,341
	2011-2015	3,065
	2016-2020	4,358
Low	2001-2005	1,926
	2006-2010	1,324
	2011-2015	934
	2016-2020	1,930

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	34,532	31,712	31,712	—	2,820	—
	2005	34,532	—	32,912	1,646	(26)	26
	2010	34,532	—	33,411	1,671	(549)	549
	2015	34,532	—	33,573	1,679	(720)	720
	2020	34,532	—	34,155	1,708	(1,330)	1,330
Low	2000	34,532	31,712	31,712	—	2,820	—
	2005	34,532	—	31,321	1,566	1,644	—
	2010	34,532	—	30,788	1,539	2,205	123
	2015	34,532	—	29,956	1,498	3,078	597
	2020	34,532	—	29,505	1,475	3,552	1,138

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	209	467	197	874
	2006-2010	372	(607)	597	363
	2011-2015	396	(913)	635	118
	2016-2020	523	(939)	839	423
Low	2001-2005	55	(286)	(54)	(285)
	2006-2010	247	(1,029)	394	(388)
	2011-2015	249	(1,253)	398	(606)
	2016-2020	340	(1,211)	543	(328)

Table 17 — San Diego Region

	Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
a. High Boat Forecasts (RP1)							
2000	10,335	23,155	17,866	9,588	5,536	1,752	68,232
2005	11,748	27,157	20,767	10,812	5,991	1,932	78,407
2010	14,411	30,200	21,859	12,404	6,071	2,220	87,164
2015	16,963	33,292	22,583	14,041	5,990	2,516	95,384
2020	19,964	37,382	23,548	16,139	5,901	2,895	105,830
b. Low Boat Forecasts (RP3)							
2000	10,335	23,155	17,866	9,588	5,536	1,752	68,232
2005	11,521	26,631	20,364	10,602	5,875	1,895	76,888
2010	13,970	29,276	21,190	12,025	5,885	2,152	84,498
2015	16,266	31,924	21,655	13,464	5,743	2,413	91,464
2020	18,947	35,477	22,348	15,317	5,600	2,748	100,437
Percent with Type	**<16′ Jet**	**<16′ Other**	**16′-19′11″**	**20′-25′11″**	**26′-39′11″**	**40′+**	**Total**
c. Facility Type at Main Storage Site							
Boat storage	—	13.1%	9.1%	25.5%	82.1%	100%	20.8%
General storage	10.0%	1.2%	6.1%	17.6%	—	—	6.5%
Own property	80.0%	79.8%	80.3%	52.9%	7.1%	—	66.5%
Club	—	—	—	2.0%	7.1%	—	1.2%
Other private property	10.0%	4.8%	4.5%	—	—	—	3.8%
Other public property	—	—	—	—	3.6%	—	0.4%
Private mooring	—	1.2%	—	2.0%	—	—	0.8%
d. Support Method at Main Storage Site							
Water	4.0%	11.8%	9.4%	8.1%	88.0%	100%	16.7%
Trailer	86.0%	49.1%	84.7%	86.5%	12.0%	—	65.6%
Rack	6.0%	16.4%	—	—	—	—	6.8%
Ground	4.0%	22.7%	5.9%	5.4%	—	—	10.9%
e. Usual Launching Method							
Ramp	70.0%	65.3%	88.9%	97.5%	66.7%	—	79.3%
Hoist	—	1.4%	4.8%	2.5%	—	—	2.4%
Carry	30.0%	29.2%	6.3%	—	—	—	16.3%
Other	—	4.2%	—	—	33.3%	—	1.9%

Boating Activity Projections

		Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total		
f. Boat Use Days per Year										
Average, 2000		36.79	42.72	32.23	39.88	65.12	49.25			
High	2000	380,227	989,197	575,807	382,354	360,514	86,299	2,774,398		
	2005	432,215	1,160,159	669,309	431,163	390,143	95,168	3,178,158		
	2010	530,172	1,290,138	704,511	494,679	395,318	109,329	3,524,147		
	2015	624,066	1,422,223	727,845	559,946	390,044	123,910	3,848,033		
	2020	734,487	1,596,965	758,947	643,624	384,259	142,600	4,260,883		
Low	2000	380,227	989,197	575,807	382,354	360,514	86,299	2,774,398		
	2005	423,843	1,137,688	656,345	422,812	382,587	93,325	3,116,601		
	2010	513,953	1,250,672	682,960	479,546	383,225	105,985	3,416,342		
	2015	598,419	1,363,774	697,933	536,934	374,014	118,817	3,689,891		
	2020	697,062	1,515,594	720,276	610,830	364,680	135,334	4,043,776		
g. Launching Demand									Year 2000 Service Level Lanes	Car/Tlr Spaces
Percent dry-stored		96.0%	88.2%	90.6%	91.9%	12.0%	—			
Percent of dry using ramp		70.0%	65.3%	88.9%	97.5%	66.7%	—			
High	2000	255,513	569,724	463,775	342,599	28,856	—	1,660,465	55	1,331
	2005	290,448	668,189	539,084	386,333	31,227	—	1,915,282	64	1,535
	2010	356,275	743,050	567,438	443,245	31,641	—	2,141,648	71	1,717
	2015	419,372	819,123	586,231	501,725	31,219	—	2,357,671	78	1,890
	2020	493,575	919,766	611,282	576,704	30,756	—	2,632,082	88	2,110
								Net Increase, 2000-2020	**32**	**779**
Low	2000	55	1,331	463,775	342,599	28,856	—	1,660,465	55	1,331
	2005	62	1,506	528,643	378,851	30,622	—	1,878,185	62	1,506
	2010	69	1,664	550,079	429,686	30,673	—	2,076,134	69	1,664
	2015	75	1,812	562,139	481,106	29,936	—	2,260,779	75	1,812
	2020	83	2,002	580,135	547,319	29,189	—	2,497,969	83	2,002
								Net Increase, 2000-2020	**28**	**671**

Table 17 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		96.0%	88.2%	90.6%	91.9%	12.0%	—	
Percent using own property		80.0%	79.8%	80.3%	52.9%	7.1%	—	
Percent using other space		20.0%	20.2%	19.7%	47.1%	92.9%	100%	
High	2000	1,984	4,125	3,189	4,150	617	—	14,066
	2005	2,256	4,838	3,706	4,680	668	—	16,148
	2010	2,767	5,381	3,901	5,369	677	—	18,095
	2015	3,257	5,931	4,031	6,078	668	—	19,964
	2020	3,833	6,660	4,203	6,986	658	—	22,340
Low	2000	1,984	4,125	3,189	4,150	617	—	14,066
	2005	2,212	4,745	3,635	4,589	655	—	15,835
	2010	2,682	5,216	3,782	5,205	656	—	17,541
	2015	3,123	5,688	3,865	5,828	640	—	19,144
	2020	3,638	6,321	3,989	6,630	624	—	21,201

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		8.1%	88.0%	100%	
High	2000	777	4,872	1,752	7,401
	2005	876	5,272	1,932	8,080
	2010	1,005	5,342	2,220	8,567
	2015	1,137	5,271	2,516	8,924
	2020	1,307	5,193	2,895	9,395
Low	2000	777	4,872	1,752	7,401
	2005	859	5,170	1,895	7,924
	2010	974	5,179	2,152	8,305
	2015	1,091	5,054	2,413	8,557
	2020	1,241	4,928	2,748	8,917

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	8	204
	2006-2010	8	181
	2011-2015	7	173
	2016-2020	9	220
Low	2001-2005	7	175
	2006-2010	7	159
	2011-2015	6	148
	2016-2020	8	190

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	2,083
	2006-2010	1,946
	2011-2015	1,869
	2016-2020	2,376
Low	2001-2005	1,770
	2006-2010	1,706
	2011-2015	1,603
	2016-2020	2,058

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	11,078	10,852	10,852	543	317	11,078
	2005	11,078	—	11,849	592	1,363	11,078
	2010	11,078	—	12,562	628	2,113	11,078
	2015	11,078	—	13,086	654	2,663	11,078
	2020	11,078	—	13,778	689	3,388	11,078
Low	2000	11,078	10,852	10,852	543	317	11,078
	2005	11,078	—	11,620	581	1,123	11,078
	2010	11,078	—	12,178	609	1,709	11,078
	2015	11,078	—	12,549	627	2,098	11,078
	2020	11,078	—	13,076	654	2,651	11,078

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	99	400	180	680
	2006-2010	129	70	288	486
	2011-2015	133	(71)	296	357
	2016-2020	170	(78)	380	471
Low	2001-2005	82	298	143	523
	2006-2010	115	9	257	381
	2011-2015	117	(124)	261	253
	2016-2020	150	(126)	335	359

Table 18 — Northern Interior Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	253	4,463	2,388	592	76	32	7,804
2005	273	5,200	2,915	711	92	37	9,228
2010	334	5,787	3,381	871	101	42	10,517
2015	390	6,336	3,840	1,039	110	46	11,761
2020	445	6,914	4,333	1,226	118	50	13,086
b. Low Boat Forecasts (RP3)							
2000	253	4,463	2,388	592	76	32	7,804
2005	257	4,891	2,742	669	86	35	8,681
2010	303	5,249	3,067	790	92	38	9,539
2015	342	5,558	3,369	912	96	40	10,317
2020	378	5,882	3,686	1,043	100	43	11,133
	Percent with Type						**Total**
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
c. Facility Type at Main Storage Site							
Boat storage	—	1.3%	4.2%	9.8%	25.0%	100%	3.7%
General storage	—	1.3%	3.0%	2.4%	25.0%	—	2.0%
Own property	100%	93.4%	89.7%	78.0%	25.0%	—	90.1%
Other	—	0.3%	—	—	—	—	0.2%
Club	—	0.3%	0.6%	—	—	—	0.4%
Other pvt ppty	—	3.1%	2.4%	9.8%	25.0%	—	3.5%
Other pub ppty	—	0.3%	—	—	—	—	0.2%
d. Support Method at Main Storage Site							
Water	—	1.6%	6.6%	11.6%	50.0%	100%	4.9%
Trailer	60.0%	67.7%	91.6%	83.7%	50.0%	—	75.5%
Rack	40.0%	9.1%	1.2%	2.3%	—	—	6.6%
Ground	—	21.6%	0.6%	2.3%	—	—	13.0%
e. Usual Launching Method							
Ramp	60.0%	69.4%	93.6%	94.7%	100%	—	78.5%
Hoist	—	0.6%	0.6%	—	—	—	0.6%
Launching svc	—	1.9%	0.6%	2.6%	—	—	1.5%
Carry	40.0%	21.7%	2.6%	—	—	—	14.6%
Other	—	3.5%	—	—	—	—	2.1%
Wheeled dolly	—	1.0%	—	—	—	—	0.6%
Back in, no ramp	—	1.9%	2.6%	2.6%	—	—	2.1%

Boating Activity Projections

		Type						Total	Year 2000 Service Level	
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		69.50	40.30	36.62	30.90	67.50	45.50			
High	2000	17,561	179,860	87,465	18,280	5,142	1,459	309,768		
	2005	18,993	209,549	106,744	21,980	6,185	1,705	365,155		
	2010	23,228	233,223	123,818	26,926	6,837	1,910	415,941		
	2015	27,085	255,345	140,623	32,119	7,401	2,098	464,672		
	2020	30,919	278,616	158,664	37,886	7,962	2,290	516,337		
Low	2000	17,561	179,860	87,465	18,280	5,142	1,459	309,768		
	2005	17,866	197,117	100,412	20,676	5,818	1,604	343,493		
	2010	21,068	211,532	112,302	24,422	6,201	1,733	377,257		
	2015	23,761	224,002	123,362	28,176	6,493	1,840	407,633		
	2020	26,306	237,042	134,989	32,233	6,774	1,948	439,291		
g. Launching Demand									**Lanes**	**Car/Tlr Spaces**
Percent dry-stored		100%	98.4%	93.4%	88.4%	50.0%	—			
Percent of dry using ramp		60.0%	69.4%	93.6%	94.7%	100%	—			
High	2000	10,537	122,826	76,464	15,303	2,571	—	227,701	38	512
	2005	11,396	143,100	93,319	18,400	3,093	—	269,307	45	606
	2010	13,937	159,267	108,245	22,541	3,418	—	307,407	51	691
	2015	16,251	174,374	122,936	26,888	3,701	—	344,151	57	774
	2020	18,551	190,266	138,708	31,716	3,981	—	383,222	64	862
								Net Increase, 2000-2020	**26**	**350**
Low	2000	38	512	76,464	15,303	2,571	—	227,701	38	512
	2005	42	570	87,782	17,309	2,909	—	253,330	42	570
	2010	47	627	98,177	20,444	3,100	—	278,817	47	627
	2015	50	679	107,846	23,588	3,246	—	301,906	50	679
	2020	54	733	118,010	26,984	3,387	—	326,040	54	733
								Net Increase, 2000-2020	**16**	**221**

Table 18 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		100%	98.4%	93.4%	88.4%	50.0%	—	
Percent using own property		100%	93.4%	89.7%	78.0%	25.0%	—	
Percent using other space		0.0%	6.6%	10.3%	22.0%	75.0%	100%	
High	2000	—	290	230	115	29	—	663
	2005	—	338	280	138	34	—	791
	2010	—	376	325	169	38	—	909
	2015	—	411	369	202	41	—	1,024
	2020	—	449	417	238	44	—	1,148
Low	2000	—	290	230	115	29	—	663
	2005	—	318	264	130	32	—	744
	2010	—	341	295	154	34	—	824
	2015	—	361	324	177	36	—	898
	2020	—	382	355	203	38	—	977

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		11.6%	50.0%	100%	
High	2000	34	19	16	69
	2005	41	23	19	82
	2010	50	25	21	96
	2015	60	27	23	110
	2020	71	29	25	125
Low	2000	34	19	16	69
	2005	39	21	18	78
	2010	46	23	19	87
	2015	53	24	20	97
	2020	60	25	21	106

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
j. Wet Storage Demand (calculated)					
Percent wet-stored		100%	100%	100%	
High	2000	69	38	32	139
	2005	83	46	37	166
	2010	101	51	42	194
	2015	121	55	46	222
	2020	142	59	50	252
Low	2000	69	38	32	139
	2005	78	43	35	156
	2010	92	46	38	176
	2015	106	48	40	194
	2020	121	50	43	214

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
k. Launching Facility Needs			
High	2001-2005	7	94
	2006-2010	6	86
	2011-2015	6	83
	2016-2020	7	88
Low	2001-2005	4	58
	2006-2010	4	57
	2011-2015	4	52
	2016-2020	4	54

		Additional Boat Spaces Needed
l. Dry Storage Facility Needs		
High	2001-2005	128
	2006-2010	118
	2011-2015	116
	2016-2020	124
Low	2001-2005	81
	2006-2010	80
	2011-2015	74
	2016-2020	79

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
m. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	216	115	115	6	96	—
	2005	216	—	137	7	72	—
	2010	216	—	160	8	48	—
	2015	216	—	183	9	24	—
	2020	216	—	208	10	—	—
Low	2000	216	115	115	6	96	—
	2005	216	—	129	6	81	—
	2010	216	—	145	7	64	—
	2015	216	—	161	8	47	—
	2020	216	—	177	9	30	—

		Type			Total
		20′-25′11″	26′-39′	40′+	
n. Wet Storage Demand Growth, by Length Group					
High	2001-2005	7	4	3	13
	2006-2010	9	2	2	14
	2011-2015	10	2	2	14
	2016-2020	11	2	2	15
Low	2001-2005	4	2	2	9
	2006-2010	7	1	1	10
	2011-2015	7	1	1	9
	2016-2020	8	1	1	10

Table 19 — Sacramento Basin Region

	Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
a. High Boat Forecasts (RP1)							
2000	8,571	71,352	54,638	19,866	4,361	1,702	160,490
2005	9,886	82,248	64,192	22,682	4,876	1,893	185,777
2010	11,796	89,372	70,829	27,697	5,235	2,092	207,021
2015	13,433	95,552	76,512	32,816	5,498	2,262	226,074
2020	15,075	102,479	82,650	38,593	5,769	2,447	247,013
b. Low Boat Forecasts (RP3)							
2000	8,571	71,352	54,638	19,866	4,361	1,702	160,490
2005	9,328	77,607	60,570	21,403	4,601	1,787	175,295
2010	10,672	80,850	64,075	25,056	4,736	1,892	187,281
2015	11,643	82,825	66,321	28,445	4,766	1,961	195,962
2020	12,512	85,057	68,599	32,032	4,788	2,031	205,019

	Percent with Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
c. Facility Type at Main Storage Site							
Boat storage	—	2.4%	1.9%	20.5%	66.7%	100%	7.9%
General storage	—	1.0%	1.9%	6.8%	5.6%	—	2.4%
Own property	100%	90.0%	92.3%	72.6%	16.7%	—	85.0%
Other private property	—	6.7%	3.8%	—	5.6%	—	4.5%
Private mooring	—	—	—	—	5.6%	—	0.2%
d. Support Method at Main Storage Site							
Water	—	1.4%	3.2%	20.5%	81.3%	100%	8.1%
Trailer	80.0%	71.3%	91.1%	76.7%	18.8%	—	76.9%
Rack	20.0%	7.2%	—	—	—	—	3.6%
Ground	—	20.1%	5.7%	2.7%	—	—	11.3%
e. Usual Launching Method							
Ramp	80.0%	73.4%	91.4%	89.8%	100%	—	82.3%
Hoist	—	1.4%	1.3%	3.4%	—	—	1.6%
Launching svc	—	2.4%	2.0%	3.4%	—	—	2.3%
Carry	20.0%	20.3%	2.0%	—	—	—	10.9%
Other	—	—	3.3%	—	—	—	1.2%
Wheeled dolly	—	1.4%	—	—	—	—	0.7%
Back in, no ramp	—	1.0%	—	3.4%	—	—	0.9%

Boating Activity Projections

		Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total		
f. Boat Use Days per Year										
Average, 2000		33.67	46.19	45.90	38.68	54.00	93.00			
High	2000	288,598	3,295,757	2,507,880	768,404	235,502	158,263	7,254,403		
	2005	332,849	3,799,044	2,946,404	877,356	263,305	176,081	8,395,040		
	2010	397,185	4,128,075	3,251,037	1,071,313	282,713	194,525	9,324,848		
	2015	452,275	4,413,557	3,511,917	1,269,333	296,918	210,394	10,154,394		
	2020	507,586	4,733,517	3,793,626	1,492,762	311,530	227,552	11,066,572		
Low	2000	288,598	3,295,757	2,507,880	768,404	235,502	158,263	7,254,403		
	2005	314,068	3,584,681	2,780,151	827,850	248,448	166,146	7,921,345		
	2010	359,312	3,734,452	2,941,042	969,160	255,756	175,977	8,435,699		
	2015	392,033	3,825,681	3,044,138	1,100,261	257,369	182,370	8,801,852		
	2020	421,293	3,928,794	3,148,690	1,238,984	258,568	188,867	9,185,197		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		100%	98.6%	96.8%	79.5%	18.7%	—		Lanes	Car/Tlr Spaces
Percent of dry using ramp		80.0%	73.4%	91.4%	89.8%	100%	—			
High	2000	230,878	2,385,218	2,218,851	548,571	44,039	—	5,427,558	494	14,889
	2005	266,280	2,749,460	2,606,837	626,353	49,238	—	6,298,167	573	17,277
	2010	317,748	2,987,587	2,876,362	764,821	52,867	—	6,999,385	637	19,201
	2015	361,820	3,194,197	3,107,176	906,190	55,524	—	7,624,906	694	20,917
	2020	406,068	3,425,760	3,356,419	1,065,697	58,256	—	8,312,200	757	22,802
								Net Increase, 2000-2020	**263**	**7,913**
Low	2000	494	14,889	2,218,851	548,571	44,039	—	5,427,558	494	14,889
	2005	541	16,302	2,459,744	591,011	46,460	—	5,942,789	541	16,302
	2010	576	17,370	2,602,093	691,893	47,826	—	6,331,975	576	17,370
	2015	602	18,131	2,693,307	785,487	48,128	—	6,609,286	602	18,131
	2020	628	18,926	2,785,810	884,523	48,352	—	6,899,082	628	18,926
								Net Increase, 2000-2020	**134**	**4,037**

Table 19 *(cont.)*

Boating Activity Projections *(cont.)*

		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
		Type						
h. Dry Storage Demand								
Percent dry-stored		100%	98.6%	96.8%	79.5%	18.7%	—	
Percent using own property		100%	90.0%	92.3%	72.6%	16.7%	—	
Percent using other space		0.0%	10.0%	7.7%	27.4%	83.3%	100%	
High	2000	—	7,035	4,072	4,327	679	—	16,114
High	2005	—	8,110	4,785	4,941	760	—	18,595
High	2010	—	8,812	5,279	6,033	816	—	20,940
High	2015	—	9,421	5,703	7,148	857	—	23,129
High	2020	—	10,104	6,160	8,407	899	—	25,570
Low	2000	—	7,035	4,072	4,327	679	—	16,114
Low	2005	—	7,652	4,515	4,662	717	—	17,546
Low	2010	—	7,972	4,776	5,458	738	—	18,943
Low	2015	—	8,167	4,943	6,196	742	—	20,048
Low	2020	—	8,387	5,113	6,977	746	—	21,223

		20′-25′11″	26′-39′11″	40′+	Total
		Type			
i. Wet Storage Demand					
Percent wet-stored		20.5%	81.3%	100%	
High	2000	4,072	3,546	1,702	9,320
High	2005	4,650	3,964	1,893	10,507
High	2010	5,678	4,256	2,092	12,026
High	2015	6,727	4,470	2,262	13,460
High	2020	7,911	4,690	2,447	15,049
Low	2000	4,072	3,546	1,702	9,320
Low	2005	4,388	3,741	1,787	9,915
Low	2010	5,136	3,851	1,892	10,879
Low	2015	5,831	3,875	1,961	11,667
Low	2020	6,566	3,893	2,031	12,490

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	79	2,388
High	2006-2010	64	1,924
High	2011-2015	57	1,716
High	2016-2020	63	1,885
Low	2001-2005	47	1,413
Low	2006-2010	35	1,068
Low	2011-2015	25	761
Low	2016-2020	26	795

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	2,480
High	2006-2010	2,345
High	2011-2015	2,189
High	2016-2020	2,441
Low	2001-2005	1,431
Low	2006-2010	1,398
Low	2011-2015	1,105
Low	2016-2020	1,175

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	17,624	13,476	13,476	674	3,474	—
High	2005	17,624	—	15,193	760	1,671	—
High	2010	17,624	—	17,389	869	—	635
High	2015	17,624	—	19,463	973	—	2,812
High	2020	17,624	—	21,760	1,088	—	5,224
Low	2000	17,624	13,476	13,476	674	3,474	—
Low	2005	17,624	—	14,336	717	2,571	—
Low	2010	17,624	—	15,731	787	1,106	—
Low	2015	17,624	—	16,870	844	—	90
Low	2020	17,624	—	18,060	903	—	1,339

		20′-25′11″	26′-39′	40′+	Total
		Type			
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	577	419	192	1,188
High	2006-2010	1,028	292	198	1,518
High	2011-2015	1,049	214	171	1,434
High	2016-2020	1,184	220	184	1,589
Low	2001-2005	315	195	85	595
Low	2006-2010	749	110	106	965
Low	2011-2015	695	24	69	788
Low	2016-2020	735	18	70	823

Table 20 — Central Valley and Eastern Sierra Regions

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	10,250	49,182	41,587	15,231	3,323	930	120,503
2005	11,696	55,710	48,435	17,202	3,677	1,000	137,719
2010	14,337	61,933	52,537	21,323	4,032	1,186	155,348
2015	16,830	68,090	55,987	25,811	4,346	1,382	172,446
2020	19,538	75,415	59,814	31,179	4,701	1,613	192,259
b. Low Boat Forecasts (RP3)							
2000	10,250	49,182	41,587	15,231	3,323	930	120,503
2005	11,429	54,457	47,363	16,823	3,597	978	134,646
2010	13,752	59,438	50,455	20,480	3,874	1,139	149,139
2015	15,850	64,170	52,816	24,352	4,104	1,304	162,595
2020	18,070	69,806	55,438	28,899	4,362	1,496	178,072
	Percent with Type						**Total**
	<16′ Jet	**<16′ Other**	**16′-19′11″**	**20′-25′11″**	**26′-39′11″**	**40′+**	
c. Facility Type at Main Storage Site							
Boat storage	5.0%	6.2%	5.8%	23.5%	47.8%	50.0%	9.8%
General storage	1.7%	3.8%	2.6%	4.7%	4.3%	—	3.4%
Own property	85.0%	84.8%	86.4%	71.8%	39.1%	50.0%	81.9%
Other	8.3%	—	1.0%	—	—	—	1.1%
Club	—	—	—	—	4.3%	—	0.2%
Other private property	—	0.7%	—	—	—	—	0.3%
Private mooring	3.3%	—	—	—	—	100%	0.0%
Other public property	—	0.7%	—	—	—	—	0.3%
d. Support Method at Main Storage Site							
Water	5.0%	5.9%	6.3%	21.8%	59.1%	100%	10.1%
Trailer	70.0%	69.0%	91.1%	78.2%	40.9%	—	75.7%
Rack	11.7%	5.5%	1.0%	—	—	—	3.8%
Ground	13.3%	19.7%	1.6%	—	—	—	10.4%
e. Usual Launching Method							
Ramp	78.9%	72.0%	93.4%	97.1%	100%	—	82.6%
Hoist	1.8%	—	—	—	—	—	0.2%
Carry	10.5%	19.9%	5.0%	—	—	—	11.8%
Other	8.8%	4.1%	0.6%	2.9%	—	—	3.2%
Wheeled dolly	—	0.4%	—	—	—	—	0.2%
Back in, no ramp	1.8%	4.1%	—	—	—	—	2.0%

Boating Activity Projections

		Type						Total		
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		59.99	39.58	36.36	36.63	48.00	76.64			
High	2000	682,795	2,271,343	1,504,915	455,307	180,220	70,184	5,164,763		
	2005	779,056	2,572,675	1,752,699	514,295	199,397	75,486	5,893,608		
	2010	955,015	2,859,887	1,901,146	637,286	218,767	89,615	6,661,715		
	2015	1,120,946	3,143,681	2,025,953	771,345	235,978	104,450	7,402,354		
	2020	1,301,240	3,481,512	2,164,392	931,606	255,441	122,040	8,256,231		
Low	2000	682,795	2,271,343	1,504,915	455,307	180,220	70,184	5,164,763		
	2005	761,654	2,516,303	1,713,892	502,521	195,086	73,875	5,763,332		
	2010	916,797	2,747,421	1,825,748	611,229	210,281	86,175	6,397,651		
	2015	1,056,820	2,966,721	1,911,132	726,362	222,883	98,702	6,982,620		
	2020	1,205,053	3,227,989	2,005,945	861,539	237,112	113,338	7,650,976		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		95.0%	94.1%	93.8%	78.2%	40.9%	—			
Percent of dry using ramp		78.9%	72.0%	93.4%	97.1%	100%	—		Lanes	Car/Tlr Spaces
High	2000	493,690	1,562,242	1,395,173	340,839	53,626	—	3,845,571	353	13,665
	2005	563,299	1,769,496	1,624,885	385,002	59,340	—	4,402,022	404	15,642
	2010	690,524	1,967,036	1,762,793	477,052	65,006	—	4,962,412	456	17,634
	2015	810,525	2,162,212	1,878,767	577,397	70,013	—	5,498,914	505	19,540
	2020	940,905	2,394,560	2,007,491	697,348	75,660	—	6,115,964	561	21,733
								Net Increase, 2000-2020	**208**	**8,068**
Low	2000	353	13,665	1,395,173	340,839	53,626	—	3,845,571	353	13,665
	2005	395	15,297	1,589,258	376,147	58,028	—	4,304,847	395	15,297
	2010	437	16,935	1,693,484	457,465	62,440	—	4,765,900	437	16,935
	2015	476	18,433	1,773,112	543,594	66,074	—	5,187,332	476	18,433
	2020	520	20,140	1,861,551	644,713	70,174	—	5,667,826	520	20,140
								Net Increase, 2000-2020	**167**	**6,475**

Table 20 *(cont.)*

Boating Activity Projections *(cont.)*

		Type <16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
h. Dry Storage Demand								
Percent dry-stored		95.0%	94.1%	93.8%	78.2%	40.9%	—	
Percent using own property		85.0%	84.8%	86.4%	71.8%	39.1%	50.0%	
Percent using other space		15.0%	15.2%	13.6%	28.2%	60.9%	50.0%	
High	2000	1,461	7,025	5,307	3,361	828	—	17,981
	2005	1,667	7,957	6,181	3,796	916	—	20,517
	2010	2,043	8,846	6,705	4,706	1,004	—	23,303
	2015	2,398	9,725	7,145	5,696	1,082	—	26,047
	2020	2,784	10,771	7,633	6,881	1,171	—	29,240
Low	2000	1,461	7,025	5,307	3,361	828	—	17,981
	2005	1,629	7,778	6,044	3,713	896	—	20,059
	2010	1,960	8,489	6,439	4,520	965	—	22,373
	2015	2,259	9,165	6,740	5,374	1,022	—	24,560
	2020	2,575	9,970	7,075	6,378	1,086	—	27,084

		Type 20′-25′11″	26′-39′11″	40′+	Total
i. Wet Storage Demand					
Percent wet-stored		21.8%	59.1%	100%	
High	2000	3,326	1,964	930	6,220
	2005	3,757	2,173	1,000	6,929
	2010	4,657	2,382	1,186	8,225
	2015	5,637	2,568	1,382	9,587
	2020	6,809	2,778	1,613	11,201
Low	2000	3,326	1,964	930	6,220
	2005	3,674	2,125	978	6,777
	2010	4,473	2,289	1,139	7,901
	2015	5,318	2,425	1,304	9,047
	2020	6,311	2,578	1,496	10,385

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	51	1,977
	2006-2010	51	1,991
	2011-2015	49	1,906
	2016-2020	57	2,193
Low	2001-2005	42	1,632
	2006-2010	42	1,638
	2011-2015	39	1,498
	2016-2020	44	1,707

		Lanes	Car/Tlr Spaces
k. Cummulative Additions Needed			
High	2001-2005	51	1,977
	2006-2010	103	3,969
	2011-2015	152	5,875
	2016-2020	208	8,068
Low	2001-2005	42	1,632
	2006-2010	84	3,270
	2011-2015	123	4,768
	2016-2020	167	6,475

		Adds. Boat Spcs	Cum. Adds.
l. Dry Storage Facility Needs			
High	2001-2005	2,535	2,535
	2006-2010	2,787	5,322
	2011-2015	2,744	8,066
	2016-2020	3,193	11,259
Low	2001-2005	2,078	2,078
	2006-2010	2,313	4,391
	2011-2015	2,188	6,579
	2016-2020	2,524	9,103

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
m. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	9,908	8,393	8,393	420	1,096	—
	2005	9,908	—	9,350	468	90	—
	2010	9,908	—	11,099	555	—	1,195
	2015	9,908	—	12,937	647	—	2,620
	2020	9,908	—	15,114	756	—	4,307
Low	2000	9,908	8,393	8,393	420	1,096	—
	2005	9,908	—	9,145	457	306	—
	2010	9,908	—	10,662	533	—	847
	2015	9,908	—	12,208	610	—	2,854
	2020	9,908	—	14,014	701	—	4,249

		Type 20′-25′11″	26′-39′	40′+	Total
n. Wet Storage Demand Growth, by Length Group					
High	2001-2005	431	209	70	710
	2006-2010	900	210	186	1,296
	2011-2015	980	186	196	1,362
	2016-2020	1,172	210	232	1,614
Low	2001-2005	348	162	48	557
	2006-2010	799	164	162	1,124
	2011-2015	846	136	165	1,146
	2016-2020	993	153	192	1,338

Table 21 — Central Valley Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	9,875	47,754	40,767	14,956	3,284	916	117,552
2005	11,267	54,087	47,479	16,890	3,633	985	134,340
2010	13,812	60,122	51,532	20,943	3,989	1,169	151,567
2015	16,208	66,078	54,942	25,353	4,307	1,363	168,251
2020	18,813	73,172	58,734	30,629	4,667	1,592	187,606
b. Low Boat Forecasts (RP3)							
2000	9,875	47,754	40,767	14,956	3,284	916	117,552
2005	11,026	52,933	46,466	16,530	3,555	964	131,474
2010	13,281	57,815	49,554	20,139	3,836	1,124	145,749
2015	15,316	62,441	51,918	23,958	4,070	1,288	158,991
2020	17,471	67,954	54,545	28,445	4,334	1,479	174,228
	Percent with Type						**Total**
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
c. Facility Type at Main Storage Site							
Boat storage	4.7%	4.0%	3.4%	24.6%	55.6%	50.0%	8.8%
General storage	—	3.5%	3.4%	3.1%	5.6%	—	3.1%
Own property	83.7%	88.1%	90.6%	72.3%	27.8%	50.0%	83.9%
Other	11.6%	—	1.3%	—	—	—	1.5%
Club	—	—	—	—	5.6%	—	0.2%
Other private property	—	3.5%	1.3%	—	5.6%	—	2.1%
Private mooring	—	1.0%	—	—	—	—	0.4%
d. Support Method at Main Storage Site							
Water	4.7%	4.0%	3.4%	22.4%	70.6%	100.0%	9.2%
Trailer	67.4%	72.5%	95.3%	77.6%	29.4%	—	78.0%
Rack	16.3%	4.0%	1.3%	—	—	—	3.6%
Ground	11.6%	19.5%	—	—	—	—	9.2%
e. Usual Launching Method							
Ramp	75.6%	71.7%	96.5%	96.2%	100.0%	—	83.6%
Carry	12.2%	19.4%	3.5%	—	—	—	10.9%
Other	12.2%	3.7%	—	3.8%	—	—	3.2%
Back in, no ramp	—	5.2%	—	—	—	—	2.3%

Boating Activity Projections

		Type						Total		
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		67.41	46.88	36.17	29.26	54.50	76.64			
High	2000	665,707	2,238,727	1,474,549	437,602	178,952	70,184	5,065,720		
	2005	759,483	2,535,596	1,717,326	494,201	197,981	75,486	5,780,072		
	2010	931,042	2,818,536	1,863,904	612,778	217,407	89,615	6,533,282		
	2015	1,092,583	3,097,728	1,987,250	741,834	234,721	104,450	7,258,566		
	2020	1,268,166	3,430,283	2,124,399	896,210	254,334	122,040	8,095,433		
Low	2000	665,707	2,238,727	1,474,549	437,602	178,952	70,184	5,065,720		
	2005	743,277	2,481,491	1,680,681	483,656	193,757	73,875	5,656,736		
	2010	895,304	2,710,348	1,792,359	589,257	209,061	86,175	6,282,505		
	2015	1,032,450	2,927,238	1,877,878	701,006	221,803	98,702	6,859,077		
	2020	1,177,735	3,185,674	1,972,911	832,302	236,198	113,338	7,518,156		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		95.3%	96.0%	96.6%	77.6%	29.4%	—		Lanes	Car/Tlr Spaces
Percent of dry using ramp		75.6%	71.7%	96.5%	96.2%	100%	—			
High	2000	479,621	1,540,961	1,374,559	326,675	52,612	—	3,774,428	303	9,541
	2005	547,183	1,745,301	1,600,874	368,927	58,206	—	4,320,492	347	10,921
	2010	670,786	1,940,055	1,737,513	457,446	63,918	—	4,869,717	391	12,310
	2015	787,171	2,132,228	1,852,494	553,788	69,008	—	5,394,689	433	13,637
	2020	913,673	2,361,133	1,980,344	669,031	74,774	—	5,998,955	482	15,164
								Net Increase, 2000-2020	**179**	**9,541**
Low	2000	303	9,541	1,374,559	326,675	52,612	—	3,774,428	303	9,541
	2005	339	10,688	1,566,714	361,055	56,964	—	4,228,300	339	10,688
	2010	376	11,837	1,670,819	439,887	61,464	—	4,682,795	376	11,837
	2015	409	12,886	1,750,539	523,309	65,210	—	5,097,782	409	12,886
	2020	447	14,083	1,839,127	621,323	69,442	—	5,571,176	447	14,083
								Net Increase, 2000-2020	**144**	**4,542**

Table 21 *(cont.)*

Boating Activity Projections *(cont.)*

		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
h. Dry Storage Demand								
Percent dry-stored		95.3%	96.0%	96.6%	77.6%	29.4%	—	
Percent using own property		83.7%	88.1%	90.6%	72.3%	27.8%	50.0%	
Percent using other space		16.3%	11.9%	9.4%	27.7%	72.2%	50.0%	
High	2000	1,534	5,455	3,702	3,215	697	—	14,603
High	2005	1,750	6,179	4,311	3,631	771	—	16,642
High	2010	2,145	6,868	4,679	4,502	847	—	19,042
High	2015	2,518	7,549	4,989	5,450	914	—	21,419
High	2020	2,922	8,359	5,333	6,584	991	—	24,189
Low	2000	1,534	5,455	3,702	3,215	697	—	14,603
Low	2005	1,713	6,047	4,219	3,553	755	—	16,287
Low	2010	2,063	6,605	4,500	4,329	814	—	18,311
Low	2015	2,379	7,133	4,714	5,150	864	—	20,240
Low	2020	2,714	7,763	4,953	6,114	920	—	22,464

		20′-25′11″	26′-39′11″	40′+	Total
i. Wet Storage Demand					
Percent wet-stored		22.4%	70.6%	100%	
High	2000	3,350	2,318	916	6,584
High	2005	3,783	2,565	985	7,333
High	2010	4,691	2,816	1,169	8,677
High	2015	5,679	3,041	1,363	10,083
High	2020	6,861	3,295	1,592	11,748
Low	2000	3,350	2,318	916	6,584
Low	2005	3,703	2,510	964	7,176
Low	2010	4,511	2,708	1,124	8,344
Low	2015	5,367	2,873	1,288	9,528
Low	2020	6,372	3,060	1,479	10,910

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	44	1,380
High	2006-2010	44	1,388
High	2011-2015	42	1,327
High	2016-2020	49	1,527
Low	2001-2005	36	1,147
Low	2006-2010	36	1,149
Low	2011-2015	33	1,049
Low	2016-2020	38	1,197

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	2,039
High	2006-2010	2,400
High	2011-2015	2,378
High	2016-2020	2,770
Low	2001-2005	1,684
Low	2006-2010	2,024
Low	2011-2015	1,930
Low	2016-2020	2,224

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	8,901	7,964	7,964	398	539	—
High	2005	8,901	—	8,870	443	—	412
High	2010	8,901	—	10,495	525	—	2,119
High	2015	8,901	—	12,196	610	—	3,905
High	2020	8,901	—	14,210	711	—	6,020
Low	2000	8,901	7,964	7,964	398	539	—
Low	2005	8,901	—	8,681	434	—	214
Low	2010	8,901	—	10,092	505	—	1,696
Low	2015	8,901	—	11,525	576	—	3,200
Low	2020	8,901	—	13,197	660	—	4,956

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	433	247	69	749
High	2006-2010	908	252	184	1,344
High	2011-2015	988	224	194	1,406
High	2016-2020	1,182	254	230	1,665
Low	2001-2005	353	192	48	593
Low	2006-2010	808	198	160	1,167
Low	2011-2015	855	165	163	1,184
Low	2016-2020	1,005	186	191	1,383

Table 22 — Eastern Sierra Region

	Type						Total
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
a. High Boat Forecasts (RP1)							
2000	374	1,428	820	275	40	14	2,951
2005	429	1,623	955	312	44	15	3,379
2010	525	1,810	1,006	381	43	17	3,781
2015	622	2,012	1,045	458	39	19	4,195
2020	725	2,243	1,080	550	35	21	4,653
b. Low Boat Forecasts (RP3)							
2000	374	1,428	820	275	40	14	2,951
2005	403	1,524	897	293	42	14	3,172
2010	471	1,623	902	341	38	15	3,390
2015	534	1,729	898	394	34	16	3,604
2020	599	1,853	892	454	29	17	3,843
	Percent with Type						**Total**
	<16′ Jet	**<16′ Other**	**16′-19′11″**	**20′-25′11″**	**26′-39′11″**	**40′+**	
c. Facility Type at Main Storage Site							
Boat storage	5.9%	11.4%	14.3%	20.0%	20.0%	—	12.8%
General storage	5.9%	4.5%	—	10.0%	—	—	4.1%
Own property	88.2%	77.3%	71.4%	70.0%	80.0%	—	76.2%
Other private property	—	4.5%	9.5%	—	—	—	4.7%
Other public property	—	2.3%	—	—	—	—	1.2%
Private mooring	—	—	4.8%	—	—	—	1.2%
d. Support Method at Main Storage Site							
Water	5.9%	10.0%	16.3%	20.0%	20.0%	—	12.6%
Trailer	76.5%	61.1%	76.7%	80.0%	80.0%	—	69.1%
Rack	—	8.9%	—	—	—	—	4.6%
Ground	17.6%	20.0%	7.0%	—	—	—	13.7%
e. Usual Launching Method							
Ramp	87.5%	72.5%	81.1%	100%	100%	—	79.7%
Hoist	6.3%	—	—	—	—	—	0.7%
Carry	6.3%	21.3%	10.8%	—	—	—	14.4%
Other	—	5.0%	2.7%	—	—	—	3.3%
Wheeled dolly	—	1.3%	—	—	—	—	0.7%
Back in, no ramp	—	—	5.4%	—	—	—	1.3%

Boating Activity Projections

		Type						Total	Year 2000 Service Level	
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+			
f. Boat Use Days per Year										
Average, 2000		45.63	22.84	37.03	64.40	32.00	45.63			
High	2000	17,087	32,615	30,367	17,706	1,268	—	99,043		
High	2005	19,574	37,079	35,373	20,094	1,416	—	113,536		
High	2010	23,973	41,351	37,242	24,508	1,361	—	128,433		
High	2015	28,364	45,953	38,704	29,511	1,257	—	143,788		
High	2020	33,073	51,229	39,993	35,396	1,107	—	160,798		
Low	2000	17,087	32,615	30,367	17,706	1,268	—	99,043		
Low	2005	18,377	34,813	33,211	18,866	1,330	—	106,596		
Low	2010	21,493	37,073	33,389	21,972	1,220	—	115,147		
Low	2015	24,370	39,483	33,254	25,356	1,080	—	123,543		
Low	2020	27,319	42,316	33,034	29,237	915	—	132,820		
g. Launching Demand									**Lanes**	**Car/Tlr Spaces**
Percent dry-stored		94.1%	90.0%	83.7%	80.0%	80.0%	100%			
Percent of dry using ramp		87.5%	72.5%	81.1%	100%	100%	—			
High	2000	14,069	21,281	20,613	14,164	1,014	—	71,143	50	4,124
High	2005	16,116	24,194	24,012	16,075	1,133	—	81,530	57	4,726
High	2010	19,739	26,981	25,280	19,606	1,088	—	92,694	65	5,373
High	2015	23,354	29,984	26,272	23,609	1,005	—	104,225	73	6,042
High	2020	27,232	33,427	27,147	28,317	886	—	117,009	82	6,783
								Net Increase, 2000-2020	**32**	**2,659**
Low	2000	50	4,124	20,613	14,164	1,014	—	71,143	50	4,124
Low	2005	54	4,437	22,544	15,092	1,064	—	76,546	54	4,437
Low	2010	58	4,817	22,665	17,578	976	—	83,105	58	4,817
Low	2015	63	5,191	22,573	20,285	864	—	89,550	63	5,191
Low	2020	68	5,603	22,424	23,390	732	—	96,650	68	5,603
								Net Increase, 2000-2020	**18**	**1,479**

Table 22 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		94.1%	90.0%	83.7%	80.0%	80.0%	100%	
Percent using own property		88.2%	77.3%	71.4%	70.0%	80.0%	—	
Percent using other space		11.8%	22.7%	28.6%	30.0%	20.0%	100%	
High	2000	42	292	196	66	6	14	616
High	2005	48	332	229	75	7	15	705
High	2010	58	370	241	91	7	17	784
High	2015	69	411	250	110	6	19	865
High	2020	80	458	259	132	6	21	956
Low	2000	42	292	196	66	6	14	616
Low	2005	45	311	215	70	7	14	662
Low	2010	52	332	216	82	6	15	703
Low	2015	59	353	215	94	5	16	743
Low	2020	66	379	214	109	5	17	789

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		20.0%	20.0%	—	
High	2000	55	8	0	63
High	2005	62	9	0	71
High	2010	76	9	0	85
High	2015	92	8	0	100
High	2020	110	7	0	117
Low	2000	55	8	0	63
Low	2005	59	8	0	67
Low	2010	68	8	0	76
Low	2015	79	7	0	85
Low	2020	91	6	0	97

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	7	602
High	2006-2010	8	647
High	2011-2015	8	668
High	2016-2020	9	741
Low	2001-2005	4	313
Low	2006-2010	5	380
Low	2011-2015	5	374
Low	2016-2020	5	412

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	89
High	2006-2010	79
High	2011-2015	81
High	2016-2020	90
Low	2001-2005	46
Low	2006-2010	41
Low	2011-2015	41
Low	2016-2020	46

m. Wet Storage Facility Needs (includes slips, tie-ups and moorings)

- Eastern Sierra facilities primarily serve vessels owned outside of region
- Surplus capacity as of 2001 is 198 vessels.

		Type			Total
		20′-25′11″	26′-39′	40′+	
n. Wet Storage Demand Growth, by Length Group					
High	2001-2005	7	1	0	8
High	2006-2010	14	(0)	0	13
High	2011-2015	16	(1)	0	15
High	2016-2020	18	(1)	0	17
Low	2001-2005	4	0	0	4
Low	2006-2010	10	(1)	0	9
Low	2011-2015	11	(1)	0	10
Low	2016-2020	12	-1	0	11

Table 23 — Southern Interior Region

	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
	Type						
a. High Boat Forecasts (RP1)							
2000	22,888	29,182	27,468	15,040	2,166	528	97,272
2005	30,064	35,376	34,213	18,659	2,591	642	121,545
2010	40,422	42,932	35,474	25,054	2,882	777	147,540
2015	52,296	51,812	34,813	33,034	3,117	927	175,999
2020	67,250	63,352	32,226	43,724	3,335	1,113	211,000
b. Low Boat Forecasts (RP3)							
2000	22,888	29,182	27,468	15,040	2,166	528	97,272
2005	28,943	34,057	32,938	17,964	2,495	618	117,015
2010	37,983	40,342	33,334	23,542	2,708	730	138,640
2015	48,069	47,625	31,999	30,364	2,865	852	161,774
2020	60,581	57,070	29,031	39,388	3,004	1,003	190,077
	Percent with Type						
	<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total
c. Facility Type at Main Storage Site							
Boat storage	—	5.8%	4.3%	5.7%	75.0%	100%	5.8%
General storage	1.3%	—	7.0%	7.5%	—	—	4.2%
Own property	96.2%	94.2%	80.9%	60.4%	25.0%	—	81.8%
Other private property	1.3%	—	6.1%	26.4%	—	—	7.1%
Other public property	1.3%	—	0.9%	—	—	—	0.6%
Private mooring	—	—	0.9%	—	—	—	0.3%
d. Support Method at Main Storage Site							
Water	—	5.7%	5.8%	5.8%	66.7%	100%	6.4%
Trailer	93.7%	56.6%	90.8%	94.2%	33.3%	—	84.4%
Rack	5.1%	15.1%	—	—	—	—	3.8%
Ground	1.3%	22.6%	3.3%	—	—	—	5.4%
e. Usual Launching Method							
Ramp	95.0%	64.0%	96.5%	94.0%	100%	—	90.2%
Hoist	—	—	—	6.0%	—	—	1.0%
Launching svc	—	2.0%	—	—	—	—	0.3%
Carry	5.0%	22.0%	2.7%	—	—	—	6.1%
Other	—	10.0%	0.9%	—	—	—	2.0%
Back in, no ramp	—	2.0%	—	—	—	—	0.3%

Boating Activity Projections

		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	Total	Lanes	Car/Tlr Spaces
		Type								
f. Boat Use Days per Year										
Average, 2000		59.67	28.04	32.36	40.60	32.72	38.00			
High	2000	1,365,747	818,254	888,852	610,617	70,885	20,070	3,774,424		
	2005	1,793,907	991,933	1,107,136	757,554	84,787	24,397	4,759,714		
	2010	2,411,967	1,203,812	1,147,938	1,017,189	94,296	29,515	5,904,717		
	2015	3,120,507	1,452,812	1,126,549	1,341,173	101,989	35,209	7,178,239		
	2020	4,012,787	1,776,388	1,042,838	1,775,194	109,115	42,310	8,758,633		
Low	2000	1,365,747	818,254	888,852	610,617	70,885	20,070	3,774,424		
	2005	1,727,050	954,965	1,065,875	729,321	81,627	23,488	4,582,325		
	2010	2,266,461	1,131,190	1,078,687	955,825	88,608	27,734	5,548,504		
	2015	2,868,301	1,335,393	1,035,499	1,232,777	93,746	32,363	6,598,079		
	2020	3,614,881	1,600,243	939,431	1,599,167	98,295	38,114	7,890,132		
g. Launching Demand									Year 2000 Service Level	
Percent dry-stored		100%	94.3%	94.2%	94.2%	33.3%	—		Lanes	Car/Tlr Spaces
Percent of dry using ramp		95.0%	64.0%	96.5%	94.0%	100%	—			
High	2000	1,297,459	493,833	807,993	540,689	23,605	—	3,163,578	154	8,358
	2005	1,704,211	598,651	1,006,420	670,799	28,234	—	4,008,316	195	10,590
	2010	2,291,369	726,524	1,043,510	900,700	31,401	—	4,993,504	243	13,193
	2015	2,964,482	876,801	1,024,067	1,187,582	33,962	—	6,086,894	296	16,081
	2020	3,812,147	1,072,086	947,971	1,571,899	36,335	—	7,440,439	362	19,657
								Net Increase, 2000-2020	**208**	**11,299**
Low	2000	154	8,358	807,993	540,689	23,605	—	3,186,641	154	8,358
	2005	188	10,221	968,912	645,799	27,182	—	3,868,728	188	10,221
	2010	228	12,376	980,559	846,364	29,506	—	4,684,447	228	12,376
	2015	271	14,717	941,300	1,091,599	31,217	—	5,570,574	271	14,717
	2020	324	17,599	853,971	1,416,030	32,732	—	6,661,417	324	17,599
								Net Increase, 2000-2020	**170**	**17,599**

Table 23 *(cont.)*

Boating Activity Projections *(cont.)*

		Type						Total
		<16′ Jet	<16′ Other	16′-19′11″	20′-25′11″	26′-39′11″	40′+	
h. Dry Storage Demand								
Percent dry-stored		100%	94.3%	94.2%	94.2%	33.3%	—	
Percent using own property		96.2%	94.2%	80.9%	60.4%	25.0%	—	
Percent using other space		3.8%	5.8%	19.1%	39.6%	75.0%	100%	
High	2000	870	1,596	4,942	5,610	541	—	13,559
High	2005	1,142	1,935	6,156	6,960	647	—	16,841
High	2010	1,536	2,348	6,383	9,346	720	—	20,332
High	2015	1,987	2,834	6,264	12,323	778	—	24,186
High	2020	2,555	3,465	5,798	16,310	833	—	28,962
Low	2000	870	1,596	4,942	5,610	541	—	13,559
Low	2005	1,100	1,863	5,926	6,701	623	—	16,213
Low	2010	1,443	2,206	5,998	8,782	676	—	19,106
Low	2015	1,827	2,605	5,757	11,327	716	—	22,231
Low	2020	2,302	3,121	5,223	14,693	750	—	26,090

		Type			Total
		20′-25′11″	26′-39′11″	40′+	
i. Wet Storage Demand					
Percent wet-stored		5.8%	66.7%	100%	
High	2000	872	1,445	528	2,845
High	2005	1,082	1,728	642	3,453
High	2010	1,453	1,922	777	4,152
High	2015	1,916	2,079	927	4,922
High	2020	2,536	2,224	1,113	5,874
Low	2000	872	1,445	528	2,845
Low	2005	1,042	1,664	618	3,324
Low	2010	1,365	1,806	730	3,902
Low	2015	1,761	1,911	852	4,524
Low	2020	2,285	2,004	1,003	5,291

Projected Facility Needs to Meet Regional Demand Growth *(may be supplied in- or out-of-region)*

		Lanes	Car/Tlr Spaces
j. Launching Facility Needs			
High	2001-2005	41	2,232
High	2006-2010	48	2,603
High	2011-2015	53	2,889
High	2016-2020	66	3,576
Low	2001-2005	34	1,863
Low	2006-2010	40	2,155
Low	2011-2015	43	2,341
Low	2016-2020	53	2,882

		Additional Boat Spaces Needed
k. Dry Storage Facility Needs		
High	2001-2005	3,281
High	2006-2010	3,492
High	2011-2015	3,853
High	2016-2020	4,776
Low	2001-2005	2,654
Low	2006-2010	2,893
Low	2011-2015	3,125
Low	2016-2020	3,859

		2001 Cap.	2001 Occ.	Proj. Demand	5% Vac. Allow.	Surplus Capacity	Facility Needs
l. Wet Storage Facility Needs (includes slips, tie-ups and moorings)							
High	2000	4,328	2,674	2,674	—	1,654	—
High	2005	4,328	—	3,244	162	922	—
High	2010	4,328	—	3,901	195	231	—
High	2015	4,328	—	4,624	231	(528)	528
High	2020	4,328	—	5,519	276	(1,467)	1,467
Low	2000	4,328	2,674	2,674	—	1,654	—
Low	2005	4,328	—	3,123	156	1,049	—
Low	2010	4,328	—	3,666	183	479	—
Low	2015	4,328	—	4,251	213	(135)	135
Low	2020	4,328	—	4,972	249	(892)	892

		Type			Total
		20′-25′11″	26′-39′	40′+	
m. Wet Storage Demand Growth, by Length Group					
High	2001-2005	210	283	114	607
High	2006-2010	371	194	135	699
High	2011-2015	463	157	150	769
High	2016-2020	620	145	187	952
Low	2001-2005	170	219	90	478
Low	2006-2010	324	142	112	578
Low	2011-2015	396	105	122	622
Low	2016-2020	523	93	151	768

Table 24
Biennial Forecast, Series RP1

	Region	Type	2000	2005	2010	2015	2020
1.	North Coast	<16′ Jet	1,872	2,097	2,322	2,664	2,892
		<16′ Other	15,355	16,613	17,870	19,479	20,458
		16-19′	10,949	12,026	13,103	14,301	14,962
		20-25′	4,623	5,018	5,414	6,112	6,613
		26-39′	1,341	1,421	1,501	1,562	1,583
		40′ up	503	528	553	578	590
		Total	**34,642**	**37,702**	**40,763**	**44,696**	**47,098**
2.	San Francisco Bay	<16′ Jet	16,594	17,078	17,562	18,634	19,463
		<16′ Other	52,646	54,463	56,281	57,523	57,856
		16-19′	47,103	48,833	50,562	51,039	50,650
		20-25′	25,504	26,053	26,602	28,153	29,430
		26-39′	12,708	12,849	12,990	12,832	12,603
		40′ up	3,669	3,686	3,703	3,784	3,857
		Total	**158,223**	**162,961**	**167,700**	**171,964**	**173,859**
3.	Central Coast	<16′ Jet	2,710	2,878	3,047	3,463	3,795
		<16′ Other	10,619	11,438	12,257	13,419	14,172
		16-19′	10,154	10,999	11,844	12,880	13,493
		20-25′	4,947	5,259	5,571	6,315	6,903
		26-39′	1,697	1,797	1,896	2,001	2,055
		40′ up	490	516	542	584	612
		Total	**30,617**	**32,887**	**35,157**	**38,661**	**41,030**
4.	South Coast	<16′ Jet	51,684	54,329	56,975	62,474	66,650
		<16′ Other	75,815	78,483	81,151	84,904	87,323
		16-19′	58,976	61,024	63,071	62,489	60,882
		20-25′	36,732	37,766	38,799	41,153	42,991
		26-39′	17,181	17,393	17,606	17,436	17,160
		40′ up	4,992	5,071	5,150	5,428	5,667
		Total	**245,380**	**254,066**	**262,752**	**273,885**	**280,674**
5.	San Diego	<16′ Jet	10,335	10,900	11,466	12,813	13,878
		<16′ Other	23,155	24,756	26,357	28,374	29,591
		16-19′	17,866	19,026	20,186	21,204	21,640
		20-25′	9,588	10,077	10,567	11,449	12,086
		26-39′	5,536	5,718	5,900	6,023	6,055
		40′ up	1,752	1,824	1,896	2,047	2,162
		Total	**68,232**	**72,302**	**76,372**	**81,910**	**85,413**
6.	Northern Interior	<16′ Jet	253	261	269	298	322
		<16′ Other	4,463	4,758	5,052	5,435	5,670
		16-19′	2,388	2,599	2,810	3,101	3,288
		20-25′	592	639	687	775	839
		26-39′	76	82	89	95	99
		40′ up	32	34	36	39	41
		Total	**7,804**	**8,374**	**8,943**	**9,744**	**10,259**
7.	Sacramento Basin	<16′ Jet	8,571	9,097	9,623	10,650	11,414
		<16′ Other	71,352	75,711	80,069	85,098	87,947
		16-19′	54,638	58,459	62,281	66,847	69,501
		20-25′	19,866	20,992	22,119	24,688	26,694
		26-39′	4,361	4,567	4,773	5,020	5,164
		40′ up	1,702	1,778	1,855	1,973	2,052
		Total	**160,490**	**170,605**	**180,720**	**194,275**	**202,772**
8.	Central Valley	<16′ Jet	9,875	10,432	10,988	12,285	13,303
		<16′ Other	47,754	50,287	52,820	56,501	58,915
		16-19′	40,767	43,452	46,137	49,100	50,721
		20-25′	14,956	15,729	16,503	18,511	20,132
		26-39′	3,284	3,423	3,563	3,775	3,918
		40′ up	916	943	971	1,059	1,132
		Total	**117,552**	**124,267**	**130,983**	**141,231**	**148,121**
9.	Eastern Sierra	<16′ Jet	374	396	418	468	506
		<16′ Other	1,428	1,506	1,584	1,698	1,773
		16-19′	820	874	928	975	996
		20-25′	275	290	305	339	367
		26-39′	40	41	43	44	43
		40′ up	14	14	15	16	16
		Total	**2,951**	**3,122**	**3,293**	**3,540**	**3,701**
10.	Southern Interior	<16′ Jet	22,888	25,759	28,629	34,207	38,350
		<16′ Other	29,182	31,659	34,137	38,398	41,421
		16-19′	27,468	30,166	32,864	34,717	35,222
		20-25′	15,040	16,487	17,935	21,217	23,775
		26-39′	2,166	2,336	2,506	2,708	2,824
		40′ up	528	574	619	696	750
		Total	**97,272**	**106,981**	**116,690**	**131,943**	**142,341**

Table 25
Biennial Forecast, Series RP13

Region	Type	2000	2005	2010	2015	2020
1. North Coast	<16′ Jet	1,872	1,966	2,060	2,211	2,314
	<16′ Other	15,355	15,617	15,879	16,199	16,387
	16-19′	10,949	11,292	11,634	11,896	11,986
	20-25′	4,623	4,716	4,810	5,074	5,291
	26-39′	1,341	1,338	1,335	1,302	1,270
	40′ up	503	497	492	481	473
	Total	34,642	35,426	36,211	37,162	37,721
2. San Francisco Bay	<16′ Jet	16,594	16,550	16,507	16,851	17,217
	<16′ Other	52,646	52,769	52,893	52,088	51,223
	16-19′	47,103	47,309	47,516	46,237	44,856
	20-25′	25,504	25,257	25,010	25,460	26,033
	26-39′	12,708	12,462	12,216	11,629	11,164
	40′ up	3,669	3,576	3,483	3,425	3,414
	Total	158,223	157,924	157,624	155,690	153,907
3. Central Coast	<16′ Jet	2,710	2,841	2,971	3,327	3,617
	<16′ Other	10,619	11,285	11,951	12,896	13,509
	16-19′	10,154	10,851	11,547	12,379	12,863
	20-25′	4,947	5,189	5,432	6,066	6,579
	26-39′	1,697	1,773	1,849	1,923	1,960
	40′ up	490	510	529	561	583
	Total	30,617	32,449	34,280	37,153	39,110
4. South Coast	<16′ Jet	51,684	53,202	54,720	58,625	61,770
	<16′ Other	75,815	76,888	77,962	79,733	80,967
	16-19′	58,976	59,784	60,593	58,744	56,490
	20-25′	36,732	37,006	37,279	38,634	39,853
	26-39′	17,181	17,051	16,921	16,388	15,920
	40′ up	4,992	4,971	4,949	5,096	5,254
	Total	245,380	248,902	252,424	257,220	260,254
5. San Diego	<16′ Jet	10,335	10,809	11,284	12,500	13,480
	<16′ Other	23,155	24,546	25,936	27,689	28,747
	16-19′	17,866	18,865	19,865	20,695	21,025
	20-25′	9,588	9,993	10,399	11,171	11,740
	26-39′	5,536	5,672	5,807	5,879	5,883
	40′ up	1,752	1,809	1,866	1,998	2,101
	Total	68,232	71,695	75,157	79,932	82,976
6. Northern Interior	<16′ Jet	253	254	256	275	294
	<16′ Other	4,463	4,634	4,806	5,034	5,177
	16-19′	2,388	2,530	2,671	2,872	3,002
	20-25′	592	623	654	718	766
	26-39′	76	80	84	88	91
	40′ up	32	33	35	36	38
	Total	7,804	8,155	8,505	9,024	9,367
7. Sacramento Basin	<16′ Jet	8,571	8,874	9,177	9,865	10,403
	<16′ Other	71,352	73,854	76,356	78,904	80,201
	16-19′	54,638	57,011	59,383	61,972	63,374
	20-25′	19,866	20,480	21,095	22,864	24,325
	26-39′	4,361	4,457	4,553	4,655	4,709
	40′ up	1,702	1,736	1,770	1,829	1,871
	Total	160,490	166,412	172,334	180,089	184,883
8. Central Valley	<16′ Jet	9,875	10,336	10,796	11,928	12,830
	<16′ Other	47,754	49,826	51,897	54,886	56,838
	16-19′	40,767	43,047	45,326	47,701	48,936
	20-25′	14,956	15,585	16,215	17,973	19,417
	26-39′	3,284	3,392	3,501	3,667	3,780
	40′ up	916	935	954	1,028	1,092
	Total	117,552	123,121	128,689	137,184	142,894
9. Eastern Sierra	<16′ Jet	22,888	25,310	27,732	32,559	36,175
	<16′ Other	29,182	31,132	33,082	36,571	39,085
	16-19′	27,468	29,656	31,844	33,096	33,255
	20-25′	15,040	16,209	17,379	20,195	22,427
	26-39′	2,166	2,298	2,429	2,580	2,665
	40′ up	528	564	600	663	707
	Total	97,272	105,169	113,066	125,665	134,315
10. Southern Interior	<16′ Jet	374	386	397	430	457
	<16′ Other	1,428	1,466	1,505	1,564	1,603
	16-19′	820	851	882	899	901
	20-25′	275	282	289	312	332
	26-39′	40	40	41	40	39
	40′ up	14	14	14	14	15
	Total	2,951	3,039	3,128	3,259	3,347